LOCKLEAR, LAWRENCE T., Ph.D. A Quantitative Examination of the Engagement of Undergraduate Lumbee Commuter Students at a Native American-serving Nontribal Institution. (2019)
Directed by Dr. Laura M. Gonzalez. 256 pp.

There is a paucity of research on American Indian students in U.S. higher education, particularly those who commute and are citizens of the Lumbee Tribe of North Carolina. Unfortunately, no studies have examined the engagement of undergraduate Lumbee commuter students. Kuh (2009b) defined student engagement as "the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities" (p. 683). Engagement is a "powerful means" for students to enhance their cognitive and psychosocial development (Astin, 1996, p. 590). Student engagement also has a positive link to grades (Astin, 1977, 1993a; National Survey of Student Engagement [NSSE], 2000; Pike, Schroeder, & Berry, 1997) and rates of persistence (Astin, 1985; Pike et al., 1997; Simpson & Burnett, 2017).

The purpose of this quantitative cross-sectional, single institution research design was to address the "American Indian research asterisk" by increasing the visibility and representation of American Indians in quantitative studies. Guiding the study conceptually was Astin's (1984, 1999) theory of student involvement and Kuh's (2009b) two-part definition of engagement. More precisely, the study sought to answer five research questions. The researcher hypothesized there was a difference in the engagement of undergraduate Lumbee commuter students based on their gender, academic classification, grade point average, and membership in a student organization. In

addition, the researcher hypothesized family obligations predict undergraduate Lumbee commuter student engagement.

The engagement of undergraduate Lumbee commuter students at the University of North Carolina at Pembroke (UNC Pembroke) was examined using items from the National Survey of Student Engagement (NSSE). The influence of family obligations on undergraduate Lumbee commuter student engagement was examined using Fuligni, Tseng, and Lam's (1999) Current Assistance to the Family subscale. Family obligations was selected for this study because: 1) family (a core value in Lumbee identity) is the number one factor affecting the persistence of American Indian students in higher education (Bass, 2013; Guillory & Wolverton, 2008); and, 2) it was a way to include a culturally relevant variable in the examination of Lumbee student engagement.

Data were collected from 144 participants who were: enrolled undergraduate students at UNC Pembroke during the spring semester of 2019; 18 years of age or older; lived off campus; and, self-identified as Lumbee. Results of one-way multivariate analyses of variance (MANOVA) did not find statistically significant differences in student engagement by gender, academic classification, grade point average, or membership in a student organization. A follow-up one-way MANOVA did find a statistically significant relationship between student engagement and membership in a student organization after the researcher collapsed the categories of membership types. Finally, the results of a single multivariate regression indicated that family obligations was not a significant predictor of student engagement. Contributing to the not statistically significant findings was the study's lack of power to detect differences in the sample (due

to the sample size) and the homogeneity of the population, which resulted in very little separation among the members on the measures.

The study adds to the literature on the engagement of undergraduate Lumbee commuter students in higher education. Implications for practice include indigenizing the academy as a way for institutions of higher education to make a conscious "effort to bring Indigenous people, as well as their philosophies and cultures, into strategic plans, governance roles, academics, research and recruitment" (MacDonald, 2016, para. 4). Future research suggestions include: 1) a qualitative follow-up to the current study to mine reasons for and challenges to undergraduate Lumbee commuter student engagement; 2) the addition of culturally relevant items to the NSSE to better measure and understand undergraduate Lumbee commuter student engagement in curricular, co-curricular, and extra-curricular campus activities, especially those with a cultural focus; 3) a mixed methods approach to explore predictors of engagement, the influence of family obligations on Lumbee commuter, and the process students use to prioritize engagement in campus activities; and, 4) a reexamination of the definition of engagement and what constitutes engagement for those who commute and are Lumbee.

A QUANTITATIVE EXAMINATION OF THE ENGAGEMENT OF UNDERGRADUATE LUMBEE COMMUTER STUDENTS AT A NATIVE AMERICAN-SERVING NONTRIBAL INSTITUTION

by

Lawrence T. Locklear

A Dissertation Submitted to
the Faculty of The Graduate School at
The University of North Carolina at Greensboro
in Partial Fulfillment
of the Requirements for the Degree
Doctor of Philosophy

Greensboro
2019

Approved by

Laura M. Gonzalez
Committee Chair

To my wife, Natasha B. Locklear (Lumbee).
"I found the one my heart loves" (Song of Solomon 3:4, New International Version).

To my cousin who was like my sister, Carol Ann Strickland (Lumbee; 1968–2018).

APPROVAL PAGE

This dissertation, written by Lawrence T. Locklear, has been approved by the following committee of the Faculty of The Graduate School at The University of North Carolina at Greensboro.

Committee Chair Laura M. Gonzalez

Committee Members Susan C. Faircloth

Brian L. McGowan

Devdass Sunnassee

May 28, 2019
Date of Acceptance by Committee

May 7, 2019
Date of Final Oral Examination

ACKNOWLEDGMENTS

In the classic motion picture, *The Wizard of Oz*, Dorothy Gale sang of a magical land, somewhere over the rainbow, where "the dreams that you dare to dream really do come true" (Leroy et al., 1939). My Ph.D. journey was similar to Dorothy's travels. Instead of being swept away by a tornado to the land of Oz, I made a twice-weekly two-hour commute to the University of North Carolina at Greensboro that tested my dedication to the journey on many occasions. While adversity was always near, I took the journey with a supportive cohort (Drs. Zachary "Zach" Blackmon, Cherise James, Steven "Steve" Mencarini, and Holly Shepherd, along with Elizabeth "Betsy" Chapman, Ph.D. candidate) who helped me confront the fears and challenges encountered along the way. Consequently, I met many great and interesting people, engaged in challenging-yet-rewarding scholarship, delved into the topic of American Indians in higher education, and grew as a scholar-practitioner. I did not see any lions, tigers, or bears, but I did tussle with a few Wilks's lambdas, *t*-tests, and betas—oh my! I realized at the end of the journey that I possessed all along the brains, heart, and courage necessary to achieve the dream that I once dared to dream—to earn a Ph.D.!

First, I want to honor my ancestors and the family members who made my educational journey possible through their sacrifices and prayers. Thanks for your understanding and support; the Ph.D. journey was imbued with challenges and great personal sacrifice.

I would be remiss not to express gratitude for the support of my Lumbee people. Thank you to the Tribal Council of the Lumbee Tribe of North Carolina for the resolution of support for this study.

I want to also thank those who not only planted the seed within me to seek a Ph.D. but nurtured the seed so it would grow. Thank you to Scott Bigelow, Cora Garcia (Lumbee), Dr. Linda E. Oxendine (Lumbee), and Dr. Heather Kimberly Dial Sellers (Lumbee). Others inspired me. They include the late: Bruce Barton (Lumbee), Glenna Hicks, and Rosa Revels Winfree (Lumbee).

I would also like to thank my colleagues and friends at the University of North Carolina at Pembroke for your support and words of encouragement. They include Dr. Alfred Bryant (Lumbee), Alesia Cummings (Lumbee), Nancy Strickland Fields (Lumbee), Dr. Mary Ann Jacobs (Lumbee), Dr. Derek Oxendine (Lumbee), Myia Reyes (Lumbee), and many, many others. Also, thanks to Dr. Leslie Locklear (Lumbee) and Dr. Tiffany Locklear (Lumbee) for your support and feedback.

Thanks also to my Facebook friends. Your uplifting “likes” and words of encouragement were a source of great motivation.

I am grateful for the support of my brothers in Phi Sigma Nu—the oldest and largest American Indian fraternity in the United States. I am thankful to be surrounded by strong American Indian men who are vested in their family, culture, and education. #B4L!

Thank you to the faculty, staff, and libraries that provided invaluable assistance to this study. They include: Amy Harris Houk, with the Jackson Library at UNC Greensboro; the Alderman Library at the University of Virginia; the staff of the *Journal of American Indian Education* at Arizona State University; Dr. Mary Jo Tippeconnic Fox (Comanche), American Indian Studies faculty at the University of Arizona; and, the staff of the Office of Institutional Research at UNC Pembroke. Thanks also to FreeVectorMaps.com for the vector county map of North Carolina.

I also want to thank my dissertation committee, Drs. Laura M. Gonzalez (chair), Susan C. Faircloth (Coharie), Brian L. McGowan, and Devdass Sunnassee. I truly appreciate the challenge and support each of you provided during the dissertation process. A special thank you to Dr. Gonzalez for your guidance, steadiness, and words of reassurance during this transformative yet stressful journey.

Last, but most importantly, thank you to my wife Natasha B. Locklear (Lumbee) and our three boys, albeit the four-legged furry kind, Riley, Carter, and Finley. I am grateful for your understanding and patience. During many late nights, the boys cuddled in my lap or on their nearby bed as I worked diligently—not alone—to complete that night's task. Natasha, I could not have done this without your support!

To these people and the many others not named, I express my deep and sincere appreciation!

TABLE OF CONTENTS

Page

LIST OF TABLES

Page

LIST OF FIGURES

Page

CHAPTER I

INTRODUCTION

Research suggests students who reside on a college campus in the United States have higher levels of engagement and academic success than those who commute (Alfano & Eduljee, 2013; Chickering, 1974; Jacoby, 1989; Pascarella & Terenzini, 1991; Peterson, 1975; Yearwood & Jones, 2012). Living on campus, rooted in U.S. higher education since its inception (Schroeder & Mable, 1994; Simpson & Burnett, 2017), is an essential component to student engagement because of the many opportunities the living arrangement affords to students (Astin, 1984; Chickering, 1974; de Araujo & Murray, 2010; Jacoby, 2000b; Mara & Mara, 2011; Pascarella & Terenzini, 2005; Schroeder & Mable, 1994; Schudde, 2016; Simpson & Burnett, 2017). Residential living

> provides a stable environment for residents while exposing them to a variety of knowledge, lifestyles, perspectives, and values. Residents can test personal attitudes and identities, learn about cultural differences, exchange personal knowledge and experiences, and develop or redevelop career plans and aspirations, all within the walls of their living space. Residential students are also more likely to engage in activities that support their academic pursuits and overall satisfaction with college life, and persist to graduation than commuter students. (Simpson & Burnett, 2017, p. 3)

Students who live on campus are also more likely to have characteristics that promote academic performance such as interaction with peers and faculty, engagement in extracurricular activities, and utilization of campus facilities (Simpson & Burnett, 2017). Pascarella, Terenzini, and Blimling (1994) concluded “residential living during college is

consistently one of the most important determinants of a student's level of involvement" (p. 25).

Much has changed on college campuses and in higher education since the publication of Chickering's (1974) seminal study, *Commuting versus Resident Students: Overcoming the Educational Inequities of Living Off Campus* (Simpson & Burnett, 2017). The student demographic has become more diverse due to socio-economic changes in society and increased access to higher education. Between 1975 and 2016, the total fall student enrollment in degree-granting postsecondary institutions increased by 78.4% from 11.1 million to 19.8 million (National Center for Education Statistics [NCES], n.d.c). The growth in enrollment spurred an increase in commuter campuses, which represent mostly commuter students and are now common in the United States (Clark, 2006; Kirk & Lewis, 2013). Commuter campuses, which include community colleges along with two-year and four-year colleges and universities, are less likely to provide on-campus housing for students. Unlike residential campuses, where most students move to the community to attend the institution, the majority of students at commuter campuses are from the surrounding areas (Chickering, 1974; Schibrowsky & Peltier, 1993). Another distinction is that commuter campuses also provide accommodations to meet the needs of commuter students such as generous parking lots and policies, storage lockers in the student union, and holding campus activities during the week (Monday through Friday) since campus empties of students during the weekend (Burrell, 2018). The skyrocketing cost of tuition and fees also drove many students to choose to reside at off campus, either at home with their parents or family members or in

private housing separate from their parents or family, as a means to reduce expenses (Ashford, 2014; Chickering, 1974; Hintz, 2011; Horn & Nevill, 2006; Jacoby, 2000b; Simpson & Burnett, 2017). Commuter students now comprise 87% of students in all postsecondary institutions in the United States (NCES, 2014).

Engagement in College

Astin (1996) suggested that involvement is a "powerful means" for students to enhance their cognitive and psychosocial development (p. 590). While researchers such as Astin (1984), Pace (1984), and Kuh, Whitt, and Strange (1989) described their concepts of student involvement/engagement in different terms, "their views were based on the simple, but powerful, premise that students learn from what they do in college" (Pike & Kuh, 2005, p. 186; Trowler, 2010; Yearwood & Jones, 2012). Astin (1984) defined student *involvement* as "the amount of physical and psychological energy that students devote to the academic experience" (p. 297). As institutions became compelled to consider ways to increase student involvement and its role in improving student outcomes, the discourse on involvement evolved and became more comprehensive. Consequently, the terminology used to describe involvement changed. Kuh (2009b) defined student *engagement* as "the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities" (p. 683). Kuh's (2009b) definition of the "two-part phenomenon" married Astin's (1984) self-efficacy of students with the role and responsibility of institutions to provide programming and facilitate student engagement in those activities to enhance student learning and development (Kuh, Cruce, Shoup, &

Kinzie, 2008; Yearwood & Jones, 2012). For the current study, Kuh's (2009b) comprehensive two-part definition of student engagement was used. Also, the term engagement was used throughout the current study unless referring to Astin's theory of involvement.

Commuter Student Engagement

While commuter students have the same educational goals and aspirations of engagement in campus activities as residential students, Jacoby (2000b) suggested commuters often are tasked with balancing competing commitments that include school, work, family, and other responsibilities. Commuters "are not less committed to their education; they simply cannot always make education their primary focus" (p. 5). They share needs that include transportation issues (e.g., time commuting to and from campus), multiple life roles and family obligations (e.g., work on average more than 20 hours per week and care for a household and family members), integrating support systems that exist on- and off-campus, and developing a sense of belonging (Alfano & Eduljee, 2013; Burlison, 2015; Furr & Elling, 2000; Jacoby, 2000b; NCES, 2014; Wilmes & Quade, 1986). Astin (1985) recognized the realities of commuters' educational experience. He suggested the struggle between educators and the other forces in a student's life to garner a share of the commuter's finite time and energy results in a reduction in the amount of time and energy the student has to dedicate to her or his educational development.

Research on commuter student engagement has focused on the impact of commuters' constraints on their engagement and produced mixed results. Some studies suggested the reduced amount of time spent on campus by commuter students is a result

of high work commitments (Alfano & Eduljee, 2013; Furr & Elling, 2000; Gefen & Fish, 2013; Newbold, Mehta, & Forbus, 2011). Other studies demonstrated commuter student difficulties with balancing school and family, again reducing time to be involved on campus (Gefen & Fish, 2013; Fairchild, 2003; Wilmes & Quade, 1986). Additional studies found higher grade point averages (GPA), retention, and academic skills for residential students when compared to commuter students (Cambridge-Williams, Winsler, Kitsantas, & Bernard, 2013; de Araujo & Murray, 2010; Flowers, 2004; López Turley & Wodtke, 2010). Other research suggested academic performance between commuter and residential students is either similar or no different (de Araujo & Murray, 2010; DeAngelo, 2014; Zheng, Saunders, Shelly, & Whalen, 2002). Last, some research proposed the differences in commuter and residential student academic performance does not result solely from living on campus but through opportunities to be engaged on campus and support provided by campus residential communities (Armstrong & Hamilton, 2013; Astin, 1973; Blimling, 1989; Pascarella & Terenzini, 2005; Schudde, 2011; Terenzini, Pascarella, & Blimling, 1996; Tinto, 1993; Webber, Krylow, & Zhang, 2013). While the higher education student demographic has become more diversified since the 1970s, there remains a limited number of studies on the impact of age, gender, and race/ethnicity on the relationship between living arrangement, student engagement, and academic performance (Simpson & Burnett, 2017).

American Indian Commuter Students

Among the diverse population of commuter students, there exist groups with unique contexts and concerns. One such group is American Indian commuter students.

The enrollment of American Indian students in higher education has risen steadily since the mid-1970s. Between 1976 and 2016, the number of American Indians enrolled in degree-granting postsecondary institutions in the United States increased by 86.9% from 76,100 to 142,300 (NCES, n.d.d). American Indians, though, represent less than one percent of the total higher education student enrollment, increasing by one-tenth of a percentage point between 1976 (0.7%) and 2016 (0.8%). The researcher could not determine the number of American Indian commuter students. However, in general, most American Indian students, excluding those who attend a Tribal College or University (TCU) or community college, are residential students (M. J. T. Fox, personal communication, August 28, 2018).

Although their enrollment is increasing, American Indians have the lowest enrollment, retention, and graduation rates among all ethnic groups (Guillory & Wolverton, 2008; Hunt & Harrington, 2010; NCES, n.d.d, n.d.l; University of North Carolina, n.d.). Contributing to the anemic levels of American Indians holding a bachelor's degree or higher are their woeful national retention rates that may be as low as 15% (Tierney, 1992). These rates, however, "are uncertain given the paucity of research studies on American Indian retention in higher education" (Guillory & Wolverton, 2008, p. 59).

Statement of the Problem

American Indians continue to be statistically "invisible" or underrepresented in national and longitudinal databases and quantitative studies (Guillory & Wolverton, 2008, p. 59). American Indian students are further disadvantaged because they are

generally not reported or discussed in quantitative research studies and "classified as statistically insignificant" due to small sample size, large margins of error, and other issues related to the validity and statistical significance (Faircloth & Tippeconnic, 2010, p. 7; Kodama, 2015; Shotton, Lowe, & Waterman, 2013). This phenomenon has been called the "American Indian research asterisk" (Garland, 2007; Shotton et al., 2013).

The "research asterisk" is amplified when considering research on American Indians in higher education, especially those who are commuter students, from the state of North Carolina, and enrolled citizens of the Lumbee Tribe of North Carolina. Samples for most Native-related quantitative studies, unless focusing on students from a TCU, are comprised mainly of residential students who attend college outside their tribal community. A sparsity of quantitative higher education data for Lumbees and other American Indians from North Carolina means their experiences and needs cannot be accurately portrayed or addressed by higher education and Student Affairs professionals. The limited empirical knowledge about these populations, particularly on their engagement in higher education, is unjust as it prevents higher education professionals from properly framing their work with the population.

The invisibility of American Indians in higher education statistical data, particularly in those which focus on student engagement and academic performance, has created a barrier to fully measuring and understanding their cognitive and psychosocial development (Larimore & McClellan, 2005). As Kodama (2015) noted, "The commuter student literature does not often disaggregate data by racial group to consider whether there may be different experiences or outcomes for students of color" (p. 45). The

aggregated data is significant because minorities comprise a significantly higher proportion of the commuter population than the residential population (Jacoby, 2000b). There, however, is a rarity of data and studies—quantitative or qualitative—on the experiences of American Indian commuter students.

Purpose of the Study

The purpose of the current study was to address the "American Indian research asterisk" by increasing the visibility and representation of American Indians in quantitative studies through an examination of the engagement of undergraduate Lumbee commuter students at the University of North Carolina at Pembroke (UNC Pembroke) using the National Survey of Student Engagement's (NSSE) 10 Engagement Indicators and six High-Impact Practices (NSSE, 2018c, 2018d) along with a measure of familism [i.e., Fuligni, Tseng, and Lam's (1999) Current Assistance to the Family subscale] and demographic control variables. It was also the purpose of the study to inform institutional practices and policies to improve the collegiate experience, student engagement, academic support, and learning outcomes for these students.

UNC Pembroke, a four-year degree-granting institution in North Carolina, has one of the largest American Indian student populations among postsecondary institutions in the United States, including the largest on the east coast. During the fall of 2018, American Indians represented 14.6% (1,040) of the institution's 7,137 students (Institutional Research, 2018; The University of North Carolina at Pembroke, n.d.b). The institution, situated in the heart of the Lumbee Tribe of North Carolina, has the eighth largest American Indian undergraduate student enrollment among public four-year

institutions and the thirteenth largest among all colleges and universities, including TCUs (*Winds of Change*, 2017). Due to its sizeable Native student enrollment, UNC Pembroke is a federally designated Native American-serving nontribal institution (U.S. Department of Education, 2014). In contrast to the national American Indian student residential trend but similar to the national commuter trend, 85.3% of the undergraduate American Indian students at UNC Pembroke commute to campus (Institutional Research, 2018). These *car-class-car students* drive to campus, go to class, and return home after class—not getting engaged in campus activities in the way higher education research has defined engagement. The large American Indian commuter population made UNC Pembroke an ideal setting for the current study.

UNC Pembroke has a large American Indian commuter population for four reasons (to the knowledge of the researcher who works at UNC Pembroke). First, UNC Pembroke is situated in the heart of the Lumbee community in Robeson County in southeastern North Carolina. The institution was established by the North Carolina General Assembly in 1887 to train Lumbee teachers (Eliades, Locklear, & Oxendine, 2014). Between 1939 and 1953, UNC Pembroke was the only state-supported four-year institution for American Indians in the United States. Before the 1950s, American Indian higher education in North Carolina was limited mainly to UNC Pembroke and private institutions. The General Assembly designated UNC Pembroke in 2005 as "North Carolina's Historically American Indian University" in recognition of the institution's historical mission of service to the Lumbee and other tribal nations of the state. Second, the campus's proximity to the Lumbee community makes commuting a short drive.

Third, students desire to maintain their Lumbee identity, support network, and connection to their culture, community, and family by remaining in their tribal community while in college (Deyhle & Swisher, 1997; Waterman, 2007, 2012). Last, family members view the prohibitively high cost of campus room and board as an unjustifiable expense when students' home and tribal community are a short drive from campus (American Indian students at UNC Pembroke, personal communication, 2014-2018).

Items from the NSSE (2018f) and Fuligni et al.'s (1999) subscale were used to measure undergraduate Lumbee commuter student engagement. Kuh's (2009a) work on student engagement contributed to the development of the NSSE. *The College Student Report*, the NSSE survey instrument, is administered annually and collects information from first-year and senior students at hundreds of four-year colleges and universities about how they spend their time and what they get from the college experience (Kuh, 2002, NSSE, 2018a, 2018e, 2018i). The survey has been administered to more than 1,600 bachelor's granting institutions of higher education in the United States and Canada since 2000 (NSSE, 2018a).

Annual reports of the NSSE results sent to participating institutions are based on 10 Engagement Indicators, grouped into four themes, and six High-Impact Practices (see Table 1). According to NSSE (2015), the Engagement Indicators and High-Impact Practices provide information about student engagement in distinct areas utilizing students' responses to related survey questions. While the results allow institutions to compare their student responses with those from other institutions, Kuh (2001) argued the scores serve to "foster a particular way of thinking and talking about collegiate quality,"

most notably ways to improve "educational practices that are strongly associated with high levels of learning and personal development" (p. 12). Institutions' scores highlight areas of student engagement that need attention and can prompt actions by the institutions to improve these areas of the student experience and the desired learning outcomes.

Table 1

NSSE's 10 Engagement Indicators, Grouped by Four Themes, and Six High-Impact Practices

Themes with Engagement Indicators	High-Impact Practices
Academic Challenge ● Higher-Order Learning ● Reflective & Integrative Learning ● Learning Strategies ● Quantitative Reasoning Learning with Peers ● Collaborative Learning ● Discussions with Diverse Others Experiences with Faculty ● Student-Faculty Interaction ● Effective Teaching Practices Campus Environment ● Quality of Interactions ● Supportive Environment	● Learning Community ● Serving-learning ● Research with faculty ● Internship or field experience ● Study abroad ● Culminating senior experience

Note. Source: NSSE (2015).

Of the 1.2 million first-year and senior students in 511 postsecondary institutions in the United States, Canada, and six other nations who were invited to participate in the 2018 NSSE, 275,219 students from the United States responded to the survey (NSSE, 2018e). One percent of the U.S. respondents self-reported as American Indian. In 2016,

American Indians represented less than one percent (0.8%) or 142,300 of the 19.8 million 18- to 24-year-old students enrolled in degree-granting postsecondary institutions in the United States (NCES, n.d.d). The NSSE, with its focus on campus engagement, is the most widely accepted and used student engagement instrument (Pike & Kuh, 2005). However, it fails to collect data on American Indian student engagement in tribal and Native-related campus activities as well as measure the influence of culture on American Indian student engagement in college. While the percentage of American Indian NSSE respondents is similar to that of the 18- to 24-year-old American Indians in higher education, the "American Indian research asterisk" remains.

Family (a core value in Lumbee identity, to be discussed later in this chapter) is the number one factor affecting the persistence of American Indian students in higher education (Bass, 2013; Guillory & Wolverton, 2008). The Fuligni et al. (1999) Current Assistance to the Family subscale was developed to assess views toward family obligations held by individuals from cultures that value the interests of the community over those of the individual. The subscale (see Table 10 in Chapter III) assesses the expectations of how often adolescents should assist with household tasks and spend time with their family. These same attitudes about community and the individual, measured by the subscale, are reflected in the Indigenous Knowledge Systems of American Indians (discussed further in Chapter II). The subscale was used in the current study to measure the influence of family obligations on the engagement of undergraduate Lumbee commuter students in campus activities. While American Indians were not among the participants in the Fuligni et al. (1999) study, the subscale has been used successfully

with other ethnic/cultural groups (Telzer, Gonzalez, & Fuligni, 2014; Tsai, Gonzales, & Fuligni, 2015; Tsai, Telzer, Gonzales, & Fuligni, 2015).

Theoretical Framework

A theory of American Indian student engagement in higher education does not exist. Given that absence, an existing theory on student engagement was used to explore its applicability to the population. Guiding this study conceptually is Astin's (1984, 1999) theory of involvement, operationalized as the Input-Environments-Outcomes (I-E-O) model, addresses the role of involvement in student development and success in college. Astin (1999) proposed, "the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program" (p. 528). Therefore, as student involvement increases, so does the amount of student learning and personal development. Astin's widely cited foundational theory has been used to guide the examination of commuter student engagement (Astin, 1998; Austin, 2006; Jacoby, 2000a; Jacoby & Garland, 2004; Kodama, 2002; Kuh, 2009b; Likins, 1991; Newbold et al., 2011; Silverman, Alibadi, & Stiles, 2009; Wilmes & Quade, 1986).

The I-E-O model is based on three concepts: inputs, environments, and outcomes (Astin, 1999). Inputs are characteristics a student brings to college, such as gender, race/ethnicity, and social, cultural, and knowledge capital. Environment accounts for the experiences of the student while in college (e.g., student interaction with faculty and staff). Outcomes or developmental goals, such as GPA, are the results of the interchange that occurs between a student's inputs and experiences while the student is in college. In

short, Astin (1999) posited the more motivated a student is and the more time and energy the student contributes to the learning process and involvement in campus activities, the greater the desired learning and developmental outcomes. Thus, this study evaluated the applicability of Astin's (1984, 1999) theory of involvement in understanding the engagement of undergraduate Lumbee commuter students at UNC Pembroke.

The foundational theories of college student development, including Astin (1999), have been criticized for their limited relevance and applicability to underrepresented student populations, such as American Indians (Tierney, 1992; Torres, Howard-Hamilton, & Cooper, 2003). The criticism stems from the theory's initial development, which was based on the clinical observations and experiences of primarily White males. Consequently, the theories were related to and tested on a sample that is not reflective of the present-day higher education demographic (Winkle-Wagner & Locks, 2014). The current study utilized data, collected at UNC Pembroke during the 2019 spring semester using the NSSE (2018f) and Fuligni et al.'s (1999) subscale, to explore the applicability of Astin's (1984, 1999) theory of involvement to undergraduate Lumbee commuter students.

Conceptual Framework

The function of a conceptual framework is to organize concepts and ideas. For the current study, the researcher created a conceptual framework to illustrate the relationship between the independent variables, dependent variables, and the population to be measured (see Figure 1). This study focused on undergraduate Lumbee commuter students at UNC Pembroke. Consequently, the outer edge of the conceptual framework

features the Lumbee Pinecone Patchwork design, which represents the Lumbee people, kinship (family), connection to place, and students' support network. The pattern, which has three concentric rows of triangles, resembles the bottom of a pinecone from the Pine tree, the most prevalent and tallest tree among the Lumbee. The patchwork was inspired by a century-old quilt made by Maggie Lowrie Locklear (1866-1931), the daughter of Lumbee hero Henry Berry Lowrie (1844-1872?) who led the fight for social and political justice in Robeson County during the Lowrie War (1865-1874; Eliades et al., 2014; Lowery, 2010, 2018; "Quilt sewn by," 2018). The design is featured prominently on the regalias worn by Lumbee women traditional dancers. Within the patchwork design are quadrants and their four colors (red, yellow, black, and white) which are based on the medicine wheel in the seal of the Lumbee Tribe of North Carolina. The circular shape of the medicine wheel represents the circle of life and the importance of a balanced, holistic approach to life (Official Tribal Seal, 2006-000__).

A central tenet to Lumbee identity is kinship and family (Lowery, 2010). The traditional belief systems of Lumbees and other American Indians recognize "the survival of Indigenous community is more important than any individual" (Brayboy et al., 2012, p. 16). This belief system "emphasize[s] the goals and interests of the group over those of individual members" (Fuligni et al., 1999, p. 1030). Consequently, Lumbee students at UNC Pembroke struggle to balance being students (needs of the individual) with the maintenance of their tribal identity, connection to family, and most importantly, family obligations (needs of the group; Bass, 2013; Guillory & Wolverton, 2008; Waterman, 2007, 2012). The obligation to family reduces the time for American Indian students to

be engaged on campus and may detract from their development in college by "pulling students' attention away from the college experience" (Lundberg & Lowe, 2016, p. 5). As a result, Lumbee cultural values, particularly attitudes about family, can influence their engagement in campus activities.

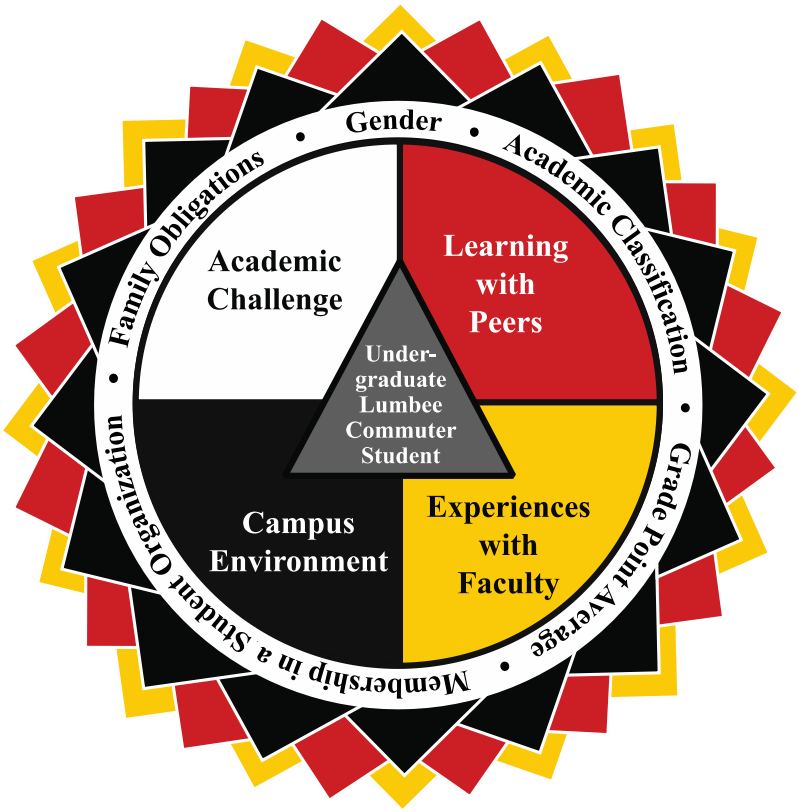

Figure 1. Conceptual Framework.

There are other components to the conceptual framework. At the heart of the framework is the undergraduate Lumbee commuter student. The triangle or delta represents the cognitive and psychosocial development that occurs in the student as a result of her or his engagement in campus activities. Surrounding the student, in the quadrants, are the study's dependent variables and proxies for student engagement—

NSSE's 10 Engagement Indicators, grouped as four themes (see Table 1). Student characteristics (gender, academic classification, self-reported grade point average, and family obligations along with the campus experience of membership in a student organization), are the study's independent variables and circle the dependent variables. Except for family obligations, the characteristics serve as grouping variables.

Research demonstrated that the demographics of students responding to the NSSE (i.e., age, gender, enrollment status, place of residence, employment status) affect students' level of engagement in campus activities (Pike, 2004). Other research showed that levels of student engagement are positively related to GPA (Carini, Kuh, & Klein, 2006). However, Pike (2004) reported that one percent of participants were American Indian while Carini et al. (2006) mentioned no American Indian participants. Other influences on student engagement include family obligations, as mentioned earlier, and student interactions with faculty and staff. These interactions with faculty and staff are positively related to students' attitudes toward college, academic achievement, and persistence in college (Brown & Robinson Kurpius, 1997; Pascarella, 1980). Thus, the aforementioned demographic variables were measured in the current study as well. The remaining independent variable (academic classification) was selected by the researcher based on prior work with undergraduate Lumbee commuter students at UNC Pembroke and an interest in student engagement based on the students' academic classification.

Significance of the Study

The current study made significant contributions to the paucity of literature on Lumbee and American Indian commuter student engagement in higher education. This

study also contributed knowledge necessary for higher education administrators to make informed decisions regarding the development and improvement of institutional policies and practices that impact American Indian students, especially those who commute. Findings from the study have the potential to empower tribal families, communities, and governments, along with higher education administrators, faculty, staff, and Student Affairs professionals, to support the unique needs of American Indian commuter students, who strive to balance being students with the maintenance of their American Indian identity and connection to family through continued residence in their tribal community (Bass, 2013; Guillory & Wolverton, 2008; Waterman, 2007, 2012). The study may also contribute to the creation of a student engagement theory for Lumbee students.

Definition of Terms

The following terminology was used throughout the current study and defined in the following manner:

Academic Performance—A student's cumulative grade point average.

American Indian, Native American, American Indian/Alaska Native, Native, Indigenous—A person belonging to the Indigenous nations of North and South America. For this study, American Indians and Alaska Natives are enrolled citizens of a federally or state recognized tribe located in the United States. The terms were used interchangeably in this study.

Commuter Student—A student who does not live in housing owned by the institution of higher education.

Engagement—"The time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities" (Kuh, 2009b, p. 683).

Familism—Defined by Fuligni et al. (1999) as a "collectivistic orientation [that] emphasize[s] the goals and interests of the group over those of individual members." Additionally, "the needs of the family usually have priority, and individual members often are asked to downplay their own needs and desires if they conflict with those of the larger family" (p. 1030).

Federally Recognized Tribe—An American Indian or Alaska Native tribal entity which has a government-to-government relationship with the United States and is entitled to the responsibilities, powers, limitations, and obligations attached to that designation, including eligibility for funding and services from the Bureau of Indian Affairs (U.S. Department of the Interior, n.d.).

Indigenizing the Academy—When institutions of higher education make "a conscious effort to bring indigenous people, as well as their philosophies and cultures, into strategic plans, governance roles, academics, research[,] and recruitment" (MacDonald, 2016, para. 4). The process for "transforming the university at its very core" is "about recentering indigenous world views as a starting point for that transformation and it's a process of institutional decolonization" (para. 5).

Living Arrangement—Location of a college student's residence—either in housing owned or not owned by the institution of higher education.

Lumbee—An enrolled citizen of the Lumbee Tribe of North Carolina (one of the more than 600 federally and state recognized tribes in the United States). Approximately 62,000 Lumbees live on non-reservations lands in southeastern North Carolina in Cumberland, Hoke, Robeson, and Scotland counties, with the majority living in Robeson County. The Lumbee are the largest tribe in North Carolina and the tenth largest in the United States (U.S. Census Bureau, 2012). A review of Lowery (2018) is recommended for a historical account of the Lumbee.

Native American-serving Nontribal Institution—A designation granted by the U.S. Department of Education to a non-tribally controlled institution of higher education that has an undergraduate student enrollment that is at least 10% American Indian (U.S. Department of Education, 2014).

Residential Student—A student who lives in housing owned by the institution of higher education.

State Recognized Tribe—An American Indian tribe recognized by individual states, but not the federal government, through acknowledgment processes developed by each state.

Tribal Colleges and Universities (TCUs)—A degree-granting institution of higher education chartered and governed by a tribal government that is committed to reinforcing and promoting the respective tribe's culture, values, language, and traditional ways through a higher education curriculum developed and implemented from a tribal perspective that offers programs of study in disciplines accepted by mainstream colleges and universities (His Horse is Thunder, 2012; Marchbanks, 2018).

Tribal Community—"Where tribal nation(s) or group(s) of tribal members reside. A tribal community can be located within the boundaries of a city, town, or rural area and can include the tribal headquarters and/or tribal enterprises. Tribal communities are not synonymous with tribal reservations" (Youngbull, 2017, p. 25).

Delimitations

Delimitations are the boundaries or limits to a study as set by the researchers (Roberts, 2010). The current study was delimited to undergraduate Lumbee commuter students who were enrolled at UNC Pembroke during the spring semester of 2019 and were 18 years of age or older.

Research Questions

The research questions guiding this study were:

1. Research Question 1: Is there a difference in student engagement by gender among undergraduate Lumbee commuter students at UNC Pembroke?
2. Research Question 2: Is there a difference in student engagement by academic classification among undergraduate Lumbee commuter students at UNC Pembroke?
3. Research Question 3: Is there a difference in student engagement by grade point average among undergraduate Lumbee commuter students at UNC Pembroke?
4. Research Question 4: Is there a difference in student engagement by membership in a student organization among undergraduate Lumbee commuter students at UNC Pembroke?

5. Research Question 5: To what extent do family obligations predict the engagement of undergraduate Lumbee commuter students at UNC Pembroke?

Researcher Standpoint

While the theoretical framework is essential for guiding this study, a methodological issue to be considered is the researcher standpoint, which relates to the role of the researcher in the study (Merriam & Tisdell, 2016). Before proceeding any further, it is essential that I disclose the standpoint I have as a researcher in this study.

As an enrolled citizen of the Lumbee Tribe of North Carolina, kinship and connection to community and place are central tenets of Lumbee identity. When Lumbees, unfamiliar with each other, meet for the first time, one of the first questions they ask each other is "Who's your people?" The purpose of this tribal custom is to establish a connection with each other, either through shared kinship or a place-based community in which the individuals reside or have family ties. Efforts to answer the question continue until the individuals connect to mutual or familiar family, friends, communities, or places.

I grew up in the Lumbee community of St. Annah, which is located immediately north of the Town of Pembroke in Robeson County. My Lumbee ties are deeply rooted in the Locklear, Strickland, Jacobs, and Jones clans, who have lived, raised families, and died in the Lumbee communities of St. Annah and Union Chapel and the areas between the Robeson County towns of Fairmont and Rowland. I was raised by my maternal grandparents, Jeffery and Pearl (née Jones) Strickland (both Lumbee), who had strong work ethics, faith in God, and connections to family and place. Although growing up

sharecroppers in Robeson County limited their educational opportunities, my grandparents instilled in me the value of education and sparked my inquisitive nature. My grandfather, born in the 1930s, was a Star Trek fan who loved to travel—visiting places in the United States where no one in our family had gone before. During the early 1970s, he along with my grandmother, mother, aunt, great-grandmother, his sister, her husband, and their two children loaded into a station wagon, with an enclosed trailer attached, and drove from North Carolina to California and back during a two-week trip. Stops included the residences of his brother's in Detroit, Michigan and Enterprise, Alabama, the Black Hills in South Dakota and Wyoming, and a drive across the scenic Golden Gate Bridge in San Francisco. All of this was accomplished long before the advent of today's superhighways. I grew up hearing stories about this trip and flipping through family photos, amazed at the grand tour of the United States my grandfather undertook before I was born. Robeson County is one of the most economically challenged counties in the United States; many of my K-12 classmates did not have the opportunity to travel and be exposed to the world outside of Robeson County. As a young child, I was fortunate to travel with my grandfather to Alabama, Michigan, and Washington, D.C. to visit his brothers who escaped the poverty of Robeson County, but not the Lumbee community, seeking a better life. These travels sparked an interest in me to learn more about the people and places outside the Lumbee community.

I attended Purnell Swett High School (named after a Lumbee), which had more than 1,500 students, of which about 86% were American Indian. Before I left my tribal community to attend college at North Carolina State University (NC State), a chance

encounter with my maternal great-great uncle during the summer of 1992 reminded me of the importance of education and how that education had implications for not only my future but that of the Lumbee people. I went with my grandmother Pearl to purchase eggs from her uncle William Lowery (Lumbee). My grandmother preferred buying eggs from members of the community instead of the grocery store. During our visit, the conversation turned to my going to NC State in a few weeks. Uncle William, who along with my grandmother passed away a decade afterwards, said something to me I will never forget. He said, "Get your education and come back and help your people." Challenged to uphold his sage words of advice, this first-generation college student ventured into the unknown world of higher education, tasked with getting an education and helping my people.

I enrolled at NC State to study history. Located a two-hour drive north of the Lumbee community, NC State was not like my tribal community. I was a first-generation college student living away from my family and outside my tribal community for the first time. I was among peers who were not like me. Of the 27,000 students at the institution, less than 200 self-identified as American Indian. I struggled my first semester to fit in culturally, socially, and academically. Unlike many of the American Indian students at NC State, I decided to explore the campus community and get engaged in Native and non-Native organizations and events.

The decision to be an engaged member of the Wolfpack Nation was sparked years earlier when traveling with my grandfather through the mountains of West Virginia on our way to Detroit, while watching a barrel cascade over Niagara Falls—in Canada—

with its human passenger tucked safely inside, and when viewing the Washington Monument in Washington, D.C. for the first time. I got engaged at NC State. I may have been the first Lumbee to serve on Student Senate. I founded an American Indian student organization. I joined a service fraternity. I faithfully attended Wolfpack athletic events. I immersed myself in the college experience. I was a paid extra in a movie. And, I made the Dean's List. Attending NC State and devoting time and energy to getting engaged in campus activities provided me with an unforgettable developmentally transformative collegiate experience that allowed me to build a campus community of supportive Native and non-Native peers.

While at NC State I grew as a student and a Lumbee who learned more about my people, our history and culture, and the experiences of American Indian peoples. I wanted to be of service to my people, so I returned home to the land of my ancestors after graduation. I taught seventh-grade social studies for three years and have worked in higher education at UNC Pembroke since 1999. As the program coordinator for the Southeast American Indian Studies Program, I interact with American Indian students daily. Many of them struggle with making the transition from high school to college. As commuter students, they are less engaged in the campus community because of academic, familial, and work obligations and a support system located off-campus. Among my many other duties, I find ways to get these students engaged in campus activities that promote their cognitive and psychosocial development. Through this study, I learned more about and how to improve the experience of undergraduate Lumbee commuter students at UNC Pembroke.

Organization of the Study

The remainder of this study is organized into four chapters, references, and appendices. Chapter II presents a review of the literature which compares characteristics of residential and commuter students and highlights the American Indian commuter student experience and engagement in campus activities. The literature review also includes a history of American Indians in higher education in the United States, a profile of American Indian college students, the distinction between involvement and engagement, student engagement theory as it relates to commuter students, and an examination of the NSSE and Fuligni et al.'s (1999) subscale as measures of student engagement. Chapter III delineates the research design and methodology of this study, including the survey used to gather data, the procedures followed for gathering data, and a description of the sample selected for the study. Results from the analysis of the data and a discussion of the findings are presented in Chapter IV. Chapter V summarizes the study, discusses conclusions, and offers recommendations for practice and future research. The study concludes with the references and appendices.

CHAPTER II

REVIEW OF THE LITERATURE

The purpose of the current study was to address the "American Indian research asterisk" by increasing the visibility and representation of American Indians in quantitative studies through an examination of the engagement of undergraduate Lumbee commuter students at the University of North Carolina at Pembroke (UNC Pembroke) as measured by the National Survey of Student Engagement (NSSE) and Fuligni et al.'s (1999) Current Assistance to the Family subscale. This chapter compares residential and commuter students, which is necessary for understanding distinctions between the two groups, and provides a brief history of research on commuter students. Next, an overview of American Indians in higher education connects Indigenous Knowledge Systems with traditional American Indian education and reviews the history of higher education for American Indians in the United States. This section also situates UNC Pembroke and the Lumbee Tribe of North Carolina within the history, literature, and data related to American Indians in higher education. The chapter then provides a profile of American Indian college students, discusses student engagement in higher education, including Astin's (1984) theory of involvement and Kuh's (2009b) definition of engagement, and explores the student characteristics that influence their campus engagement. The chapter concludes with a review of literature related to the NSSE and Fuligni et al.'s subscale.

For the current study, the terms American Indian and Native were used interchangeably to refer to a person or persons belonging to the Indigenous nations of North and South America, except when mentioning specific tribal affiliations (e.g., Lumbee). Literature cited in this study may have also referred to American Indians as Native American, American Indian/Alaska Native, First Nations, or Indigenous.

Search Strategy

The creation of a list of components for inclusion in this literature review initiated the search strategy for the current study. The list guided the selection of the keywords used in search databases. Keywords included but were not limited to *academic performance, American Indian* or *Native American, commuter student, engagement, higher education, involvement, living arrangement, Lumbee, persistence, postsecondary education, residential student, student engagement*, and *student involvement*. Databases including Academic Search Complete, EBSCOhost, ERIC, General OneFile, JSTOR, Project Muse, ProQuest Central, ProQuest Dissertations & Theses Global, and WorldCat.org, along with Google Scholar, were searched. The sources of information contained within the literature review include peer-reviewed journal articles, books, government and institutional statistics, dissertations, and theses. Identified were more than 250 sources, dating from the early 1970s, with a few exceptions, to the present; the majority were published within the last 20 years. Older materials were included to provide an informed, longitudinal context for understanding the topic.

Residential and Commuter Students: A Comparison

Living on campus is an important component to student engagement because of the many opportunities the living arrangement affords to students (Astin, 1984; Chickering, 1974; de Araujo & Murray, 2010; Jacoby, 2000b; Mara & Mara, 2011; Pascarella & Terenzini, 2005; Schroeder & Mable, 1994; Schudde, 2016; Simpson & Burnett, 2017). However, the skyrocketing cost of tuition and fees has driven many commuter students to choose to reside off campus, either at home with their parents or family members or in private housing separate from their parents or family, as a means to reduce expenses (Ashford, 2014; Chickering, 1974; Hintz, 2011; Horn & Nevill, 2006; Jacoby, 2000b; Simpson & Burnett, 2017). Consequently, distinctions exist between residential and commuter students. This section provides a profile of residential and commuter students, including the non-academic commitments that influence their academic performance and engagement in campus activities, and a brief history of research on commuter students.

Residential Students

A residential student is defined as a student who lives in housing owned by the institution of higher education. On-campus residential living has been rooted in U.S. higher education since its inception in the seventeenth century (Schroeder & Mable, 1994; Simpson & Burnett, 2017). While only 13% of U.S. college students live in on-campus housing (NCES, 2014), residential living is still considered an essential component to "what [is] known as the collegiate way of life" (Schroeder & Mable, 1994, p. 5). There is a significant positive relationship between living on campus and

integration, student engagement, and persistence in higher education (Pascarella, 1985). An analysis of aggregated data from the NSSE by Kuh, Kinzie, Buckley, Bridges, and Hayek (2007) supported the conclusions of Chickering's (1974) seminal study, *Commuting versus Resident Students: Overcoming the Educational Inequities of Living Off Campus,* which found that commuter students were less engaged in curricular activities and, consequently, more likely to fail academically (Simpson & Burnett, 2017). Kuh et al. (2007) learned that residential students were more engaged than their commuter peers because they lived on campus and had better access to institutional resources for learning, including faculty and other students. Other studies show that residential students are more satisfied than commuter students with their overall college experience (Astin, 1975, 1993a; Blimling, 1993). The inclusion of living-learning communities in residence halls positively contributes to the social integration and academic performance of students, especially those from underrepresented ethnic groups (Edwards & McKelfreesh, 2002; Kuh, Kinzie, Schuh, & Whitt, 2005; Pike, 1999). Last, studies suggest that residential students are more likely to be open to diversity and increased tolerance than commuter students (Astin, 1993b; Blimling, 1993; Pascarella et al., 1994).

Commuter Students

A commuter student does not live in housing owned by the institution. Commuters represent 87% of U.S. college students (NCES, 2014). Jacoby (2000b) described commuter students in the following way:

> They include full-time students of traditional age who live with their parents, part-time students who live in rental housing near the campus, and adults with careers and children. Commuter students attend virtually every institution of higher education. They may represent a small percentage of students at a private, residential liberal arts college or the entire population of a community college or urban institution. The proportion of minorities in the commuter population is significantly higher than in the residential population. (p. 5)

Commuter students have many of the same characteristics of nontraditional students—not followed a continuous educational path into college, older than traditional students (usually 24 years of age or older), work full-time, have family obligations such as dependents, and attend college part-time (Evelyn, 2002; Newbold, 2015; Newbold et al., 2011. Over 60% of commuter students were either married, over the age of 30, or worked full-time while enrolled in college (Burlison, 2015; NCES, 2014).

Commuter students have the same educational goals and aspirations of engagement in campus activities as residential students. Jacoby (2000b) suggested, however, commuters often are tasked with balancing competing commitments that include school, work, family, and other responsibilities. Commuters "are not less committed to their education; they simply cannot always make education their primary focus" (p. 5). They share needs that include transportation issues (e.g., time commuting to and from campus), multiple life roles and family obligations (e.g., work on average more than 20 hours per week and care for a household and family members), integrating support systems that exist on- and off-campus, and developing a sense of belonging (Alfano & Eduljee, 2013; Burlison, 2015; Furr & Elling, 2000; Jacoby, 2000b; NCES, 2014; Wilmes & Quade, 1986).

Commuter student difficulties with balancing school and family reduce their time to be engaged on campus (Fairchild, 2003; Gefen & Fish, 2013; Wilmes & Quade, 1986). Astin (1985) recognized the realities of commuters' educational experience. He proposed the struggle between educators and the other forces in a student's life to garner a share of the commuter's finite time and energy results in a reduction in the amount of time and energy the student has to dedicate to her or his educational development. So, as Simpson and Burnett (2017) suggested, "commuter students have to choose how and when they participate in campus activities wisely to balance multiple obligations while overcoming challenges to complete a college education" (p. 3).

Although commuter students may have constraints on their time, an analysis of NSSE responses from 2000 and 2001 by Kuh, Gonyea, and Palmer (2001) found that commuter students "put forth just as much effort as other students in areas that are primarily related to what goes on inside the classroom" (p. 9). Some studies demonstrated higher GPAs, retention, and academic skills for residential students when compared to commuter students (Cambridge-Williams et al., 2013; de Araujo & Murray, 2010; Flowers, 2004; López Turley & Wodtke, 2010).

Other research suggested academic performance between commuter and residential students is either similar or no different (de Araujo & Murray, 2010; DeAngelo, 2014; Zheng, Saunders, Shelly, & Whalen, 2002). Last, some research proposed the differences in commuter and residential student academic performance does not result solely from living on campus but through opportunities to be engaged on campus and support provided by campus residential communities (Armstrong &

Hamilton, 2013; Astin, 1973; Blimling, 1989; Pascarella & Terenzini, 2005; Schudde, 2011; Terenzini et al., 1996; Tinto, 1993; Webber et al., 2013).

History of research on commuter students. During the earliest days of the higher education system in the United States, residence halls were at the core of the residential system adopted from the English model (Jacoby, 1989). Providing on-campus housing was a "necessity and philosophy" for the first college students—young men training for the clergy—who attended institutions that were either in isolated settings or had insufficient boarding facilities (p. 9). Institutions felt residence halls were the best setting to monitor the behavior of these students. Since that time, the residential model has become "a tradition so fundamental, so all-encompassing, that to call it merely a tradition is to undervalue it. For what is involved here is nothing less than a way of life, the collegiate way" (Rudolph, 1962, p. 87).

Jacoby (1989) argued that the U.S. residential tradition created a system filled with inequities that "de facto discriminates" against commuter students in favor of residential students (p. iii). Institutions have, thus, failed to incorporate commuter students into policies, programs, and practices. Institutional leaders who received degrees from traditional residential institutions have, according to Jacoby (1989), "too often assumed erroneously that what has worked for residential students will serve commuter students equally well" (p. iii).

Jacoby (1989) recounted the history of research on commuter students in five waves. The first wave occurred before the 1970s and consisted mostly of descriptive studies, limited in scope, that relied on small samples of traditional age, full-time, often

single-sex students at one institution. In most instances, commuter students were compared to residential students even though most of the studies were conducted at four-year institutions that were predominantly residential. These studies focused on whether students' living arrangement affected academic performance and if commuter students suffered more mental and emotional problems than residential students. The results were "problematic and inconclusive" (p. 16), probably because researchers failed to examine the same variables, use the same methods, and select comparable samples. One researcher found that students who lived in residence halls had higher levels of academic performance compared to "home" students, while another discovered living arrangement had no effect on academic performance (Walker, 1935). Alfert (1966) reported that students who lived at home had higher dropout rates than students who lived in institutional housing.

Research on the commuter student experience at commuter institutions began in the early 1960s. Earlier research on commuter students, Jacoby (1989) argued, was "inconclusive," "contradictory," and "rife with strongly negative characterizations … based on observation rather than on carefully designed research" (p. 20). This "ungrounded" research, Jacoby (1989) continued, was "cited repeatedly in other articles as authoritative sources of information" (p. 20). Consequently, assumptions prevailed about commuter students which resulted in institution's neglect to develop policies, practices, and programs that met the needs of commuter students and encouraged them to get involved in campus activities (Jacoby, 2000b; Yearwood & Jones, 2012).

The second wave featured the publication of seminal works on commuter students and an increased interest in the topic. The works of Chickering (1974) and Astin (1975, 1977), using multi-institutional studies of national samples, broadened the scope and significance of work on commuter students. Although the makeup of the higher education student enrollment was changing, Astin (1975) only included first-time, full-time freshmen and traditional-age students at traditional institutions in his research. Chickering's (1974) *Commuting versus Resident Students*, the first book to focus on commuter students, clearly delineated residential students as the "haves" and commuter students as the "have nots" (p. 49). His study found that commuter students are less involved in academic and extracurricular activities with their peers, leading to diminished commitment, satisfaction with college, and likelihood to return. Jacoby (1989) noted in Chickering's (1974) work, "the residential college experience is the benchmark against which all others should be measured"—proving to be problematic for the commuter student experience (p. 22). Astin's (1975, 1977) research also highlighted the commuter experience and the relationship between living arrangement and educational outcomes. Astin's (1975) *Preventing Students from Dropping Out* reported the positive relationship between living on campus and retention; residential students were more engaged with faculty and involved in campus activities than commuter students.

The work of Chickering (1974) and Astin (1975, 1977) led to an increased interest in commuter students. As a result, the National Clearinghouse for Commuter Programs (NCCP) was founded in 1972 at the University of Maryland at College Park as the first national organization to share data about commuter students and programs that meet their

needs (Jacoby, 1989). Six years later, the American College Personnel Association (ACPA) created a permanent Commission on Commuter Programs (CCP) to research commuter students. Even with the establishment of the NCCP and CCP, continued negative stereotypes of commuter students that relied heavily on pre-Chickering sources marked the second wave.

The third wave of research on commuter students reflected the increasing student diversity in higher education, including adult learners, underrepresented ethnic groups, and students in urban and two-year college settings—most of whom were commuter students (Jacoby, 1989). Researchers noted that two-year and urban commuter institutions enrolled a disproportionately high number of students from underrepresented groups who had low family income and educational attainment (Richardson & Bender, 1985). During the late 1970s and 1980s, a substantial body of new literature on adult learners addressed the needs of these students and their status as a sub-population of commuter students (Brookfield, 1986; Hughes, 1983; Schlossberg, Lynch, & Chickering, 1989); most notably that adult learners cannot be regarded as a single homogeneous population, and that consideration must be given to commitments (e.g., family obligations, life situations, employment) that influence their motivation and commitment to higher education (Aslanian & Brickell, 1980; Hughes, 1983).

The fourth wave of research challenged institutions of higher education to address the residential bias ingrained in student services and called for a comprehensive response to the needs of commuter students. The research sought to understand the source of the positive effects of living on campus. Tinto's (1993) theory of student persistence

explored the absence of student support services, particularly for commuter students, and their contribution to student departure. Studies by Pascarella (1984, 1985) assessed the effect of residential living on measures of outcome, including educational aspirations, satisfaction with college, the rate of progress through college, intentions to persist, and students' intellectual and interpersonal self-image (Jacoby, 1989). Both studies found that the positive influence of living on campus (versus commuting) had no significant, direct effects on the measures.

The fifth wave of research on commuter students was characterized by education reports seeking substantial reforms in U.S. higher education (Jacoby, 1989). For example, the *Involvement in Higher Learning* report (Study Group on the Conditions of Excellence in American Higher Education, 1984) called for the inclusion of part-time and commuter students in learning communities and campus activities. Other reports exhorted institutions to integrate commuter students into institutional educational processes. In what Jacoby (1989) called a "positive development" for commuters (p. 28), reports placed the responsibility on institutions for integrating commuters educational process with other aspects of their lives. Last, a report by the Commission on the Future of Community Colleges (1988) noted the ineffectiveness of traditional residential models that were no longer appropriate for many students. The Commission found "what works with full-time, single, well-prepared residential students does not necessarily work with part-time students who have jobs and families and who have often experienced less academic success in their previous schooling" (p. 7). In addition, the Commission did "not suggest a residential, four-year college model" (p. 30). As Jacoby argued, "The

concepts of ‘involvement,’ ‘normal progress’ toward a degree, and ‘identification’ with the institution … must be reexamined and redefined when … the vast majority of students in higher education are commuter students” (p. 28).

Recent research on commuter students has focused on their engagement in campus activities and the role of institutions in creating those opportunities. Kuh (2009b) emphasized the responsibility of institutions, and particularly Student Affairs professionals, to provide opportunities for engaging commuter students in active learning that promotes their success. The research generated more inclusive and data-driven institutional policies and practices for commuter students that better serve the needs of the students and their institutions.

American Indians in Higher Education

The diversity of students in higher education in the United States has increased dramatically since the 1970s. Among the diverse population are the Indigenous peoples of the present-day United States. The history of American Indians in higher education is best understood when situated within the context of the American Indian experience in the United States (McClellan, Fox, & Lowe, 2005). Cabrera (1978) argued, “American Indians are victims of a legacy which includes economic exploitation, military conquest, political manipulation, and social disregard” (p. 158). Education in the United States has historically been used as a tool to assimilate American Indians into mainstream, Western culture. Shotton et al. (2013) noted the lack of recognition for Indigenous Knowledge Systems in mainstream culture and the machinations embedded in American Indian education. They wrote, “Educational policy became one of ‘kill the Indian in him, and

save the man,' and its purpose was to replace Native culture with White Christian values as a tool for removal to obtain land" (p. 12). Consequently, mainstream colleges and universities have struggled with accommodating American Indian students and creating environments that promote perseverance and degree completion (Guillory & Wolverton, 2008). These "hallowed" institutions have failed to serve the needs of a "unique population," and according to Guillory and Wolverton (2008), "To say that Native Americans are ill-prepared for college only scratches the surface of a deep, historically unresolved problem—getting Native American students through the mainstream higher education pipeline" (p. 58). The current study provided insight into how to better serve and meet the needs of American Indian students. This section offers an introduction to the history of American Indians in higher education, including traditional American Indian education, a profile of American Indian college students, and factors that influence their engagement in campus activities and academic persistence.

A History of American Indians in Higher Education

Indigenous knowledge systems and traditional American Indian education.

American Indian societies, prior to the arrival of Europeans, developed an elaborate educational structure (Carney, 1999; Thornton, 1998) and process that is "concerned with a preparation for life, meeting the demands of society, and transmitting their culture from one generation to another" (Carney, 1999, p. 18; Otis, 1971). At the heart of traditional American Indian education and Indigenous Knowledge Systems are:

> notions of community and its concomitant survival; an understanding that lived experience is a very important form of knowledge…; the importance of relationality, respect, and reciprocity; as well as recognition of the importance of

> place/space and land. In this paradigm, the survival of Indigenous community is more important than any individual. This is because individuals, through the continual process of self-discovery and selflessness, become whole; thereby ensuring community survival…. At its core, then, the knowledge systems, ways of being, and teaching philosophies for many Indigenous peoples are critically focused on community and survival. (Brayboy, Fann, Castagno, & Solyom, 2012, p.16)

The Indigenous Knowledge Systems are infused with "practices whereby new generations became full members of society…" (Thornton, 1998, p. 79). These practices include training for survival and knowledge of tribal traditions. Survival training is imbued with a sense of humility that teaches Native peoples to respect and take care of the land but also how to survive off the land in a way that supports the community and the individual.

Knowledge of tribal traditions is also essential to the education of American Indians. Children learn the lifeways of their parents and community through ceremonies, storytelling, and apprenticeships (Reyhner & Eder, 2017). Play and games are also a means for educating children. A game nicknamed "the little brother of war" teaches boys how to handle weapons while building physical endurance. Luther Standing Bear (1931) recounted his childhood growing up among the Oglala Lakota people on the plains of North and South Dakota during the 1870s and 1880s while learning traditions essential for the survival of the community and the individual. Through play, games, and observing adults and the natural world around him, Standing Bear learned hunting, fishing, and horsemanship—all the things a Lakota boy of his generation needed to survive in a harsh world. Standing Bear was taught how to throw a stone swiftly and with correct aim to kill the small game for food. He acknowledged that "serious training"

began when a boy learned to make his first bow and set of arrows (p. vii). Traditionally, extended family and tribal members are responsible for this training. Standing Bear's father tied him to a horse and taught him how to ride. As Standing Bear demonstrated, knowledge of tribal traditions and practices is essential to ensuring the survival of the individual and, more importantly, the Indigenous community.

Higher education for American Indian students. Indigenous Knowledge Systems and traditional American Indian education—created to protect the community and promote tribal history and culture—clashed with the efforts of European colonists and, later, the U.S. government to use education to assimilate and exterminate American Indians. The history of American Indian participation in higher education in the United States consists of three eras: colonial, federal, and self-determination (Carney, 1999).

Colonial era. The formal Western education of American Indians began soon after the arrival of Europeans in the Americas when Europeans sought to convert American Indians to Christianity and civilize them (Thornton, 1998). While early colonists did express an interest in the education of American Indians, "it was education on European terms, assimilationist in concept and curriculum, predicated on the assumption that it was the duty of civilized man to bring enlightenment to the less civilized areas of the world" (Carney, 1999, p. 19; Robbins, 1974). As Lomawaima (1999) noted, the goal of colonial colleges was "to transform Indian people and societies and eradicate Indian self-government, self-determination, and self-education" (p. 5).

The Spanish made the first efforts in 1568 to establish schools for American Indians in the present-day United States in Florida (Carney, 1999; Thornton, 1998). By

the seventeenth century, the French established schools on the St. Lawrence River in present-day Canada, while the English created schools in Virginia and educational communities of "praying Indians" in New England. The first California mission was established at San Diego in 1769 by the Spanish.

Early seventeenth century efforts to educate American Indians by the English in colonial America also included colleges. In 1617, King James I called for the establishment of a college for American Indians (Thornton, 1998). Monies were raised, and a college was proposed near Henrico in central Virginia. Efforts to establish the college failed when the Virginia charter was revoked in 1624. Three of the original nine colleges in the thirteen American colonies—Harvard College, William and Mary College, and Dartmouth College—embraced the education of American Indians. A fourth, the College of New Jersey (later Princeton University), did admit American Indian students during the colonial era (Carney, 1999). However, the number of American Indian students to attend and graduate from these institutions was dismal.

The lack of American Indian attendance at these institutions may be attributed to the institutions' failure to educate Native students to support their tribal community, as described earlier in Indigenous Knowledge Systems. Benjamin Franklin noted this when the Iroquois declined an invitation from the Virginia government in 1744 to send six of their young men to William and Mary. When other Iroquois who attended a college returned to the tribal community, the Iroquois responded:

> But you, who are wise, must know that different Nations have different Conceptions of things; and you will therefore not take it amiss, if our Ideas of this kind of Education happen not to be the same with yours. We have had some

> Experience of it. Several of your young People were formerly brought up at the Colleges of the Northern Provinces; they were instructed in all your Sciences; but, when they came back to us, they were bad runners, ignorant of every means of living in the Woods, unable to bear either Cold or Hunger, knew neither how to build a Cabin, take a Deer, or kill an Enemy, spoke our language imperfectly, were therefore neither fit for Hunters, Warriors, nor counsellors; they were totally good for nothing. . . . However, . . . if the Gentlemen of Virginia will send us a Dozen of their Sons, we will take great Care of their Education, instruct them in all we know, and make *Men* of them. (Franklin & Smyth, 1905, pp. 98–99)

The actions of the Iroquois affirmed the importance of survival training and knowledge of tribal traditions (like the Lakota), but, more importantly, how their Indigenous Knowledge System differed from the European model of education. The unimpressive colonial era proved to be the high point for American Indian higher education until the mid-to-late twentieth century.

Federal era. The federal era is most notable for its focus on vocational education—and not higher education—for American Indians (Carney, 1999). The federal era began with the formalization of treaty relationships between the U.S. government and American Indian nations after the Revolutionary War. Ninety-seven treaties addressing Native educational needs were signed between 1778 and 1871 (Belgarde, 1996). The U.S. government assumed a trustee responsibility for American Indian education as a result of the treaty obligations. Consequently, the federal government established an extensive system of boarding schools, day schools, and reservation schools, which used vocational training to emphasize the assimilation of American Indians.

In the late nineteenth century, three institutions were established expressly for the higher education of American Indians: Bacone College, Haskell Indian Nations University, and UNC Pembroke. The first all-American Indian college in North America

was Bacone College (formerly Bacone Indian University). Founded in 1880 by the Baptist Home Mission Board and located in Muskogee, Oklahoma, the institution awarded its first bachelor's degree in 1883. Less than half of the institution's current enrollment of 900 students is American Indian (Reyhner & Eder, 2017). Haskell Indian Nations University was established four years later in 1884 in Lawrence, Kansas as the United States Indian Industrial Training School (Thornton, 1998). It began as a federal boarding school focused on agricultural education that evolved into a junior college and then a four-year institution. Bachelor's degrees were first awarded in the 1990s. Haskell is a federally-operated TCU with an all-American Indian enrollment of approximately 1,000 and provides higher education to members of federally recognized tribes.

The University of North Carolina at Pembroke. In the eastern United States, UNC Pembroke was founded in 1887 by the North Carolina General Assembly as Croatan Normal School with a mission to train Lumbee teachers (Eliades et al., 2014). Located in Pembroke, North Carolina, in the heart of the Lumbee Tribe, the institution evolved from a normal (teacher training) school, with instruction initially at the elementary level, into a high school, junior college, and then four-year institution to meet the ever-changing teacher training requirements mandated by the state. The bachelor's degree was first awarded in 1940. Between 1939 and 1953, it was the only four-year state-supported institution of higher education for American Indians in the United States. For Lumbee and other American Indian students in North Carolina, options for postsecondary education were mostly limited to UNC Pembroke and private institutions because segregationist laws prevented their attendance at state-supported institutions. Many of the

first American Indian teachers in North Carolina's tribal communities received their training at UNC Pembroke. The first non-Native student enrolled in 1952 as the mandate of UNC Pembroke—along with Bacone—was expanded to include non-Native students. Master's degrees were first awarded in 1979. In 2005, UNC Pembroke was designated by the General Assembly as North Carolina's historically American Indian university. A review of Eliades et al. (2014) is recommended for a comprehensive history of UNC Pembroke. Additional information about UNC Pembroke is provided later in this chapter. Despite the establishment of Bacone, Haskell, and UNC Pembroke, American Indian higher education continued to be overlooked.

Self-determination era. While there is a difference in opinion among scholars about when the self-determination era started, the Progressive movement in education and passage of the Wheeler-Howard Act (P.L. 73-383), also known as the Indian Reorganization Act of 1934 (IRA), were pivotal to the trend toward American Indian self-determination in education (Carney, 1999; Cunningham & Redd, 2000; McClellan et al., 2005). The Progressive movement emphasized the inclusion and not the eradication of Native culture in the curriculum (Cunningham & Redd, 2000). The IRA renewed the recognition of tribal governments and the educational sovereignty and self-determination of Native peoples (Carney, 1999; McClellan et al., 2005).

In 1932, the Bureau of Indian Affairs (BIA) found that only 385 American Indian were enrolled in college in the United States. By 1935, just one year after the IRA was enacted, the number of American Indians in college increased by 34% to 515 (Wright & Tierney, 1991).

After World War II, some American Indian soldiers used the Servicemen's Readjustment Act of 1944 (P.L. 78-346), also known as the G.I. Bill of Rights, to enter college (Carney, 1999). Financial support for American Indian college students came from other areas. The BIA created a scholarship program in 1948, and tribal support for college scholarships also increased. By the late 1950s, there were 24 tribal scholarship programs, and about 2,000 American Indians were enrolled in college (Szasz, 1974; Wright & Tierney, 1991). The number of American Indians attending college began to accelerate in the 1960s. American Indian college graduates tripled between 1961 and 1968. By 1965, there were 7,000 American Indian college students (Szasz, 1974; Wright & Tierney, 1991).

Tribal colleges and universities. Alternative routes to higher education for American Indians were explored due to the failure of off-reservation colleges and universities to recruit and retain American Indian students (Reyhner & Eder, 2017). The most significant development in American Indian higher education during the self-determination era was the tribal college movement (Carney, 1999; Cunningham & Redd, 2000; McClellan et al., 2005; Stein, 1999). While specialized colleges and universities for American Indians was not a new idea, an unprecedented system of tribal colleges and universities (TCU) began with the establishment of Diné College (formerly Navajo Community College) in 1968 by the Navajo Nation. TCUs are degree-granting institutions of higher education chartered and governed by a tribal government that are committed to reinforcing and promoting the respective tribe's culture, values, language, and traditional ways through a higher education curriculum developed and implemented

from a tribal perspective that offers programs of study in disciplines accepted by mainstream colleges and universities (His Horse is Thunder, 2012; Marchbanks, 2018). According to Belgarde (1996), TCUs "promote the culture of the tribe they serve, work to strengthen the economies of their Indian communities, and strengthen the social fabric of the tribal community both internally and in conjunction with outside communities through empowering individual Indian people" (p. 9).

By 1973, there were six tribal colleges. That year, the colleges established the American Indian Higher Education Consortium (AIHEC) with a priority to establish an American Indian accreditation agency and support network for AIHEC institutions (AIHEC, 2018a). In 1978 Congress passed the Tribally Controlled Community College Assistance Act (P.L. 95-471) to provide funding to TCUs. Today, there are 37 TCUs, charted by tribal governments or the federal government (AIHEC, 2018c). These institutions offer two- and four-year degrees in academic disciplines, such as American Indian/Native American Studies and vocational and technical areas (Thornton, 1998). Located mainly in the U.S. Midwest and Southwest, TCUs serve approximately 27,000 students from more than 250 tribal nations or one-in-five (17.7%) American Indian college students in the United States (AIHEC, 2018b; NCES, n.d.d).

A Profile of American Indian College Students in the United States

In 2015, the U.S. population comprised approximately 321 million; 1.6% or 5.4 million self-identified as American Indian. Approximately 48% (2.6 million) of Natives self-identified as American Indian only while 52% (2.8 million) self-identified as American Indian in combination with one or more races (U.S. Census Bureau, 2015).

This section uses enrollment, housing, financial aid, persistence, and degree completion data to create a profile of American Indian students in higher education in the United States as a way to provide context for the choices they make during their postsecondary experiences.

Enrollment. The American Indian student enrollment in higher education has risen steadily since the mid-1970s. Between 1976 and 2016, the number of American Indians enrolled in degree-granting postsecondary institutions increased by 86.9% from 76,100 to 142,300 (NCES, n.d.d). American Indians, though, have the lowest college enrollment rates among any ethnic group in the United States. American Indians represent less than one percent (0.8%) of the total higher education student enrollment (19.8 million), increasing by one-tenth of a percentage point between 1976 (0.7%) and 2016 (0.8%; NCES, n.d.d). Less than one-in-five (18.6%) 18-to-24-year-old American Indians were enrolled in degree-granting postsecondary institutions in 2016 (NCES, n.d.b). Almost 57% (80,500) were enrolled full-time while 43.4% (61,800) attended part-time (NCES, n.d.d). As with other ethnicities, excluding Pacific Islander students, females account for the majority (60.4% or 86,000) of American Indian college students, compared to 56,300 (39.6%) who are male (NCES, n.d.d).

Paying for college. Financial aid is critical to the success of American Indian students in higher education, especially for low-income students where cost can be a determining factor (Tierney, Sallee, & Venegas, 2007). Many American Indians decide not to pursue a postsecondary education because they deem it unaffordable or possess limited knowledge about financial assistance and support for applying to college. In

reality, Native students can finance their education through funds from the federal, state, and tribal governments, as well as institutional and private. Among undergraduate financial aid recipients during the 2015-16 academic year, 76.7% of American Indian students received some form of financial aid, in comparison to White (71.2%), Black (80%), Hispanic (71.4%), Asian (62.0%), and Pacific Islander (69.1%) students (NCES, n.d.m). Almost 62% of American Indian students received the federal Pell Grant, which is based solely on financial need (NCES, n.d.n). American Indians were the second highest percentage of Pell Grant recipients when compared to White (34.0%), Black (71.8%), Hispanic (59.8%), Asian (36.4%), and Pacific Islander (58.5%) students. Less than one-in-three (30.9%) American Indians received loans of any kind (NCES, n.d.m), third lowest percentage when compared to White (40.2%), Black (50.8%), Hispanic (30.7%), Asian (23.3%), and Pacific Islander (31.8%) students. The low participation rate in loan programs may reflect either unfamiliarity with the borrowing process or the inability or unwillingness of American Indian families to assume additional education-related debts. The average amount of financial aid awarded to full-time American Indian students ($14,810) was less than the average amount ($18,210) awarded to all students and was the lowest among all ethnic groups (NCES, n.d.o). The same was true for part-time Native students ($6,400) when compared to all students ($7,550; NCES, n.d.p). The lower than average financial aid award packages and low rate of participation in loan programs for American Indian students may highlight an unmet financial need that presents a barrier to their persistence in higher education. As a consequence, Native

students live at home or seek employment to cover the gap in financial aid, further limiting their campus engagement.

Type of institutions. During the fall of 2016, as shown in Table 2, the majority (58.7%) of American Indian college students attended four-year institutions (NCES, n.d.e). More than three-in-four (77.8%) were enrolled in public institutions. One-in-five (22.2%) attended private institutions—four-year (19.8%) and two-year (2.4%).

Table 2

Type of Higher Education Institutions Attended by American Indian College Students (Fall 2016)

Type	Public or Private	Number of American Indian Students	Percent of American Indian Students
Four-year		83,600	58.7
	Public	55,300	38.9
	Private	28,200	19.8
Two-year		58,700	41.3
	Public	55,300	38.9
	Private	3,400	2.4

Note. Source : NCES (n.d.e).

Four-year institutions. Garland (2010) suggested that 92% of American Indian college students attend predominantly White institutions (PWIs). The 13 four-year colleges (see Table 3) with the largest American Indian student enrollments represent 11.6% (16,564) of the total American Indian enrollment (AIHEC, 2018b; *Winds of Change*, 2017). Three of the six four-year institutions with the largest American Indian student enrollments are TCUs. There are 37 TCUs with more than 75 sites in the United States. TCUs serve 27,000 students representing half of the federally recognized tribes in

the United States and 30 states (AIHEC, 2018a, 2018b; *Winds of Change*, 2017). Of the more than 4,600 degree-granting two- and four-year institutions in the United States (NCES, n.d.a), the 37 TCUs and 10 four-year non-TCU institutions with the largest American Indian student enrollments accounted for 27.5% (39,156) of the total American Indian enrollment in U.S. higher education (AIHEC, 2018b; NCES, n.d.d). In other words, one-in-four (27.5%) American Indian college students enrolled at one percent of U.S. postsecondary institutions.

Table 3

Four-year Institutions with the Largest American Indian Student Enrollments (2013-2014)

Institution	State	Type of Institution	American Indian Enrollment
Navajo Technical University—Crownpoint	NM	TCU	1,649
Northeastern State University	OK	Public	1,570
Diné College	AZ	TCU	1.471
University of New Mexico—Main Campus	NM	Public	1,458
University of Phoenix—Tempe	AZ	For-Profit	1,399
Oglala Lakota College	SD	TCU	1,288
University of Alaska—Fairbanks	AK	Public	1,189
University of Alaska—Anchorage	AK	Public	1,171
Oklahoma State University—Main Campus	OK	Public	1,169
University of Oklahoma—Norman	OK	Public	1,120
Southeastern Oklahoma State University	OK	Public	1,095
Grand Canyon University—Phoenix	AZ	For-Profit	1,009
University of North Carolina at Pembroke	NC	Public	976
Total			16,564

Note. Source: *Winds of Change* (2017).

The University of North Carolina at Pembroke. UNC Pembroke is the only institution in Table 3 located on the U.S. east coast. The institution has the thirteenth

largest American Indian undergraduate student enrollment among all four-year institutions, including TCUs, and the eighth largest among all public four-year institutions (*Winds of Change*, 2017). Due to its sizeable Native student enrollment, UNC Pembroke is a federally designated Native American-serving nontribal institution (U.S. Department of Education, 2014). During the fall of 2018, American Indians represented 14.6% (1,040) of the institution's 7,137 students (Institutional Research, 2018; The University of North Carolina at Pembroke, n.d.b).

UNC Pembroke is also situated in a state with a large Native population. In 2010, North Carolina had the ninth largest American Indian population (184,082) of any state in the United States and the largest of any state east of the Mississippi River (U.S. Census Bureau, 2012). The large American Indian student population at UNC Pembroke is attributed to the institution's roots as a historically American Indian university located in the heart of the Lumbee Tribe in Robeson County (see Figure 2). The more than 62,000 members of the tribe are situated mainly in Robeson County with smaller Lumbee communities in neighboring Cumberland, Hoke, and Scotland counties. The Lumbee, as shown in Table 4 and Figure 2, is the largest of the eight state and federally recognized tribes in North Carolina (NC Commission of Indian Affairs, n.d.) and the tenth largest in the United States (U.S. Census Bureau, 2012). Consequently, Lumbees represent the overwhelming majority of American Indian students at UNC Pembroke.

The seven other state tribes are represented among the institution's Native student body. UNC Pembroke is in close geographical proximity to the Coharie, Haliwa-Saponi, and Waccamaw Siouan Nations (see Table 4 and Figure 2), who represent the largest

proportion of American Indians students at UNC Pembroke after the Lumbee (Institutional Research, 2018).

UNC Pembroke is also a constituent institution of the University of North Carolina (UNC system), a 17-campus system comprised of the four-year state-supported institutions of higher education in North Carolina and the North Carolina School of Science and Mathematics. In 2017, more than 232,000 students were enrolled in the system; less than one percent (0.9%), or 2,052 students, self-identified as American Indian (University of North Carolina, n.d.). Almost half (46% or 949) of the UNC system's American Indian students were enrolled at UNC Pembroke.

Table 4

State and Federally Recognized American Indian Tribes in North Carolina

Tribe	Enrollment	Tribal Territory
Coharie Tribe	2,700	Harnett and Sampson counties
Eastern Band of Cherokee Indians	15,000	Cherokee, Clay, Graham, Jackson, Macon, and Swain counties
Haliwa-Saponi Indian Tribe	3,800	Halifax and Warren counties
Lumbee Tribe of North Carolina	62,000	Cumberland, Hoke, Robeson, and Scotland counties
Meherrin Indian Tribe	900	Hertford County
Occaneechi Band of the Saponi Nation	1,100	Alamance, Caswell, and Orange counties
Sappony	850	Person (North Carolina) and Halifax (Virginia) counties
Waccamaw Siouan Tribe	2,000	Bladen and Columbus counties

Note. Source: NC Commission of Indian Affairs (n.d.).

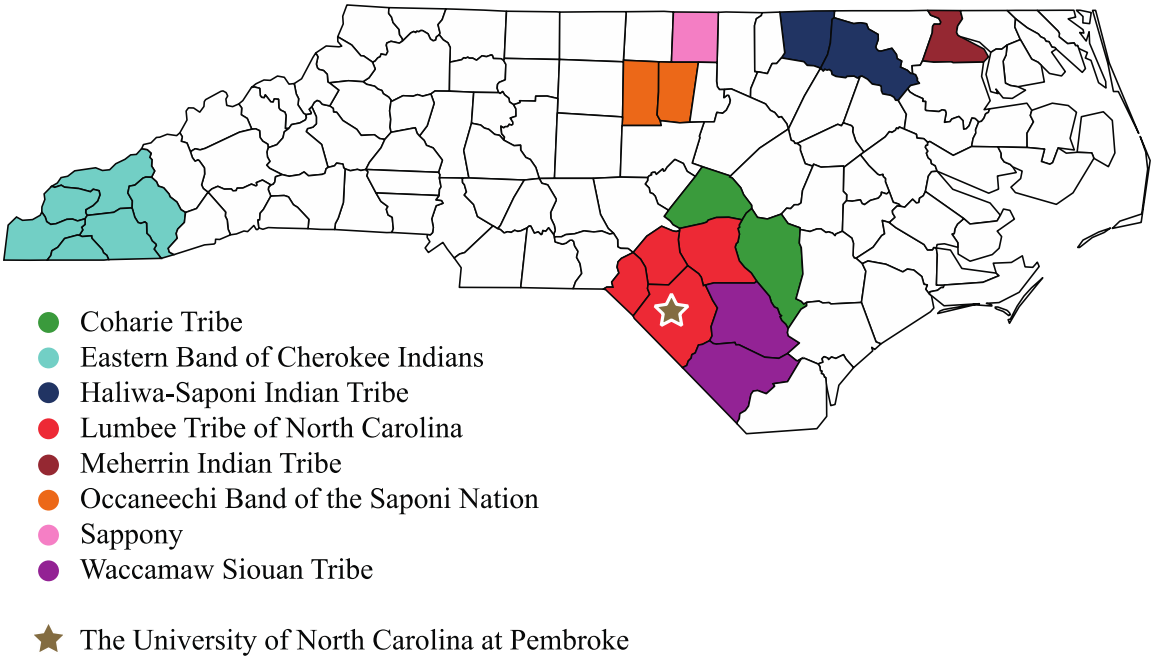

Figure 2. Proximity of the University of North Carolina at Pembroke to North Carolina's State and Federally Recognized American Indian Tribes. Adapted from NC Commission of Indian Affairs (2015).

Living arrangement. Commuter students comprise 87% of students in U.S. postsecondary institutions (NCES, 2014). Most American Indian students, excluding those who attend a TCU, community college, or an institution within or near their tribal community, are residential students, according to Dr. Mary Jo Tippeconnic Fox, an enrolled member of the Comanche Nation, who is a research professor in American Indian Studies at the University of Arizona (M. J. T. Fox, personal communication, August 28, 2018). Although the researcher could not determine the number of American Indian commuter students, Jacoby (2000b) suggested that underrepresented students comprise a significantly higher proportion of the commuter population than the residential population.

American Indian commuter students. There is a lack of research on American Indian commuter students; the researcher was unable to locate studies or data on this population except for UNC Pembroke. In contrast to the national American Indian student residential trend but similar to the national commuter trend, 85.3% of the undergraduate American Indian students at UNC Pembroke are commuters (Institutional Research, 2018). They commute for at least four reasons, to the knowledge of the researcher. First, UNC Pembroke is situated in the heart of the Lumbee community. Second, the campus's proximity to the Lumbee community makes commuting a short drive. Third, students desire to maintain their Lumbee identity, support network, and connection to their culture, community, and family by remaining in their tribal community while in college (Deyhle & Swisher, 1997 Waterman, 2007, 2012). Last, family members view the prohibitively high cost of campus room and board as an unjustifiable expense when students' home and tribal community are a short drive from campus (American Indian students at UNC Pembroke, personal communication, 2014-2018).

Persistence rates. American Indian student access to higher education has improved dramatically since the mid-1970s. However, other indicators of success, such as persistence and graduation rates, are of great concern (Cole & Denzine, 2002). American Indians have the lowest persistence rates of any ethnicity in the United States. There, however, is the paucity of national retention rates for American Indian students (Guillory & Wolverton, 2008). During the 1990s, the National Collegiate Athletic Association (NCAA) was the only major organization that collected persistence and

graduation data from about 900 institutions (Pavel, Skinner, Cahalan, Tippeconnic, & Stein, 1998). The NCAA collected persistence rates at Division II and III schools but not Division I schools. At Division II institutions, 54% of American Indians persisted after the first year, compared to 68% for their freshman cohort. Third-year persistence for American Indians was 33%, compared to 49% for all cohort members. At Division III institutions, rates improved as 67% of American Indians persisted from the first to second year (79% for freshman cohort) and 47% (65% cohort) persisted from the third to the fourth year. Other researchers reported lower rates. Guillory and Wolverton (2008) noted that woeful national retention rates for American Indian students might be as low as 15%. Guyette and Heth (1984) suggested dropout rates as high as 75% for American Indian college students.

Persistence rates, however, are readily available for American Indian students in the UNC system and at UNC Pembroke (see Table 5). American Indians have the lowest persistence rates for all ethnicities in the UNC system (University of North Carolina, n.d.). For the cohort of 31,807 UNC system students who enrolled in 2009, carried a full load, and were retained at the same UNC system institution, 82.0% persisted from the first to the second year and 65.5% from the fifth to the sixth year. Three of four (76.5%) American Indian students persisted to the second year, but rates dropped afterward as half (51.9%) persisted to the sixth year.

At UNC Pembroke, American Indian persistence rates were similar to overall institutional rates but far below those of UNC system American Indians and cohort members (University of North Carolina, n.d.). Almost three in four (73.2%) American

Indians persisted to the second year; less than half (41.3%) persisted to the sixth year. These rates exceeded the institution's overall second-year rate (72.9%) but fell slightly below the overall sixth-year rate (41.8%). American Indian six-year persistence rates were higher than Asian (33.3%) and White (38.1%) students but lower than Black (43.4%) and Hispanic (48.3%) students.

Table 5

Persistence Rates for 2009 Cohort of American Indian College Students Who Carried a Full Load First Semester and Were Retained at the Same Four-year Institution

Level	Group	*n*	Year Persistence (%)				
			1st-to-2nd	2nd-to-3rd	3rd-to-4th	4th-to-5th	5th-to-6th
UNC System	All Students	31,807	82.0	72.5	68.9	66.8	65.5
	White	19,422	84.0	75.3	72.4	70.9	70.2
	Black	7,809	77.0	65.5	60.0	56.4	53.8
	Hispanic	1,200	81.8	72.2	69.4	66.8	66.3
	Asian	962	87.5	82.5	79.0	76.5	75.4
	Native Hawaiian or other Pacific Islander	17	88.2	64.7	58.8	64.7	64.7
	American Indian	293	76.5	60.1	52.9	51.5	51.9
UNC Pembroke	All Students	1,202	72.9	48.7	44.9	41.9	41.8
	White	454	66.1	44.9	40.7	38.3	38.1
	Black	403	78.9	50.9	47.6	43.7	43.4
	Hispanic	60	80.0	50.0	51.7	43.3	48.3
	Asian	12	100.0	58.3	41.7	33.3	33.3
	Native Hawaiian or other Pacific Islander	2	--	--	--	--	--
	American Indian	138	73.2	47.8	40.6	41.3	41.3

Note. Source: University of North Carolina (n.d.).

Graduation rates. American Indians also have the lowest graduation rates for any ethnicity in the United States, in the UNC system, and at UNC Pembroke (see Table

6). Nationally, the six-year graduation rate for first-time, full-time American Indian students at four-year degree-granting institutions who began in 2009 was 41.2%, compared to 59.4% of all students in the cohort (NCES, n.d.l). The six-year rate for American Indian students was higher than that of Black students (39.5%) but lower than the rates for Pacific Islander (48.5%), Hispanic (53.6%), White (63.3%), and Asian (73.0%) students. American Indian females (43.6%) graduated at a higher rate in six years than American Indian males (38.2%).

In the UNC system, the six-year graduation rate for American Indian (46.4%) students in the 2009 cohort, who carried a full-time load their first semester and graduated from the same UNC system institution they attended the first semester, was much lower than UNC system students (62.8%) in the same cohort (University of North Carolina, n.d.). This rate for American Indian students was lower than Native Hawaiian or other Pacific Islander (52.9%), Black (49.9%), Hispanic (63.2%), White (68.0%), and Asian (72.1%) students. Data for a gendered comparison of American Indian graduation rates were not available.

At UNC Pembroke, the six-year graduation rate for American Indian students (33.3%) was similar to institutional cohort members (38.3%; University of North Carolina, n.d.). The rate tied for the lowest among UNC Pembroke's ethnic minorities with Asian students. Data for a gendered comparison of American Indian graduation rates were not available.

Table 6

Graduation Rates for 2009 Cohort of College Students who Carried a Full Load First Semester and Graduated from the Same Four-year Institution

Level	Group	*n*	Graduation Rate (%)		
			4th Year	5th Year	6th Year
Nationally	All Students	--	39.9	55.3	59.4
	White	--	44.2	59.7	63.3
	Black	--	20.6	34.3	39.5
	Hispanic	--	30.7	47.6	53.6
	Asian	--	49.5	67.7	73.0
	Pacific Islander	--	26.7	42.2	48.5
	American Indian	--	24.0	36.9	41.2
UNC System	All Students	31,807	39.6	58.4	62.8
	White	19,422	45.5	64.3	68.0
	Black	7,809	24.7	44.1	49.9
	Hispanic	1,200	39.9	58.9	63.2
	Asian	962	50.3	68.1	72.1
	Native Hawaiian or other Pacific Islander	17	17.6	41.2	52.9
	American Indian	293	28.3	41.6	46.4
UNC Pembroke	All Students	1,202	18.1	33.5	38.3
	White	454	18.5	31.9	35.5
	Black	403	18.4	35.5	40.2
	Hispanic	60	18.3	36.7	43.3
	Asian	12	25.0	25.0	33.3
	Native Hawaiian or other Pacific Islander	2	--	--	--
	American Indian	138	13.8	28.3	33.3

Note. Source for data for nationally from NCES (n.d.l) and for UNC system and UNC Pembroke from University of North Carolina (n.d.).

Certificates and degrees conferred. The definitive indicator of success in higher education is degree attainment. However, low persistence rates severely restrict the number of certificates and degrees conferred to American Indian students. In 2016, the U.S. Census Bureau (n.d.a) estimated that among the 213.6 million Americans 25 years

of age and over, 33.7% had a bachelor's degree or higher. Fourteen percent of American Indians had a bachelor's degree or higher, compared to Whites (33.8%), Blacks (20.0%), Hispanics (14.7%), Asians (52.1), and Native Hawaiians or Other Pacific Islanders (16.2%). In a 2017 estimate of American Indians, the U.S Census Bureau (n.d.b) reported that 36.3% had some college or an associate's degree, 12.9% had a bachelor's degree, and 6.8% had a graduate or professional degree. The same estimate suggested a larger percentage of American Indian females (21.5%) had a bachelor's degree or higher than American Indian males (17.6%).

Table 7 illustrates the number of certificates below the associate's degree level and degrees (associate, bachelor, master, and doctorate) conferred to American Indian during the 2015-16 academic year (NCES, n.d.g, n.d.h, n.d.i, n.d.j, n.d.k; University of North Carolina, n.d.). American Indians, who represent 0.8% of U.S. college students, had a higher representation in certificate and associate's degrees conferred than bachelor's, master's, and doctorate degrees conferred; as the level of the degree increased, the percentage of American Indian recipients declined. The lower percentage suggests an overrepresentation of American Indians in certificate and associate degree programs and American Indians completing bachelor's degrees and higher at lower rates than other ethnicities. Also, American Indian females comprised a much higher percentage of recipients at all levels when compared to American Indian males except for doctorates awarded in the UNC system. Certificates below the associates are not offered by UNC system institutions, and UNC Pembroke only offers bachelor's and master's degrees.

Table 7

Certificates and Degrees Conferred by Postsecondary Institutions (2015-2016)

Level	Type of Degree	Group	Number Conferred	% of Total	Male (% of Group)	Female (% of Group)
Nationally	Certificate below Associate	Total	939,243	100	396,668 (42.2%)	542,575 (57.8%)
		American Indian	10,548	1.1	4,603 (43.6%)	5,945 (56.4%)
	Associate	Total	1.008 million	100	392,152 (39.2%)	616,162 (61.6%)
		American Indian	9,491	0.95	3,336 (35.1%)	6,155 (64.9%)
	Bachelor	Total	1.92 million	100	821,779 (42.8%)	1.1 million (57.2%)
		American Indian	9,737	0.51	3,823 (39.3%)	5,914 (60.7%)
	Master	Total	785,595	100	320,444 (40.8%)	465,151 (59.2%)
		American Indian	3,540	0.45	1,230 (34.7%)	2,310 (65.3%)
	Doctorate	Total	177,867	100	84,089 (47.3%)	93,778 (52.7%)
		American Indian	808	0.45	368 (45.5%)	440 (54.5%)
UNC System	Associate	Total	120	100	97 (80.8%)	23 (19.2%)
		American Indian	0	0	0 (0.0%)	0 (0.0%)
	Bachelor	Total	38,211	100	16,011 (41.9%)	22,200 (58.1%)
		American Indian	305	0.80	102 (33.4%)	203 (66.6%)
	Master	Total	11,822	100	5,034 (42.6%)	6,788 (57.4%)
		American Indian	83	0.70	21(25%)	62(75%)
	Doctorate	Total	2,694	100	1,245 (46.2%)	1,449 (53.8)
		American Indian	14	0.52	8 (57%)	6 (43%)
UNC Pembroke	Bachelor	Total	944	100	356 (37.7%)	588 (62.3%)
		American Indian	129	13.7	43 (33.3%)	86 (66.7%)
	Master	Total	234	100	47 (20.1%)	187 (79.9%)
		American Indian	38	16.2	5 (13.2%)	33 (86.8%)

Note. Source for data for nationally (Certificate below Associate) from NCES (n.d.g), for nationally (Associate) from NCES (n.d.h), data for nationally (Bachelor) from NCES (n.d.i), data for nationally (Master) from NCES (n.d.j), data for nationally (Doctorate) from NCES (n.d.k), and data for UNC system and UNC Pembroke from University of North Carolina (n.d.).

Summary. American Indians have the lowest college enrollment rates among any ethnic group in the United States. In 2016, 142,300 American Indians were enrolled in degree-granting postsecondary institutions (NCES, n.d.d). One-in-four (27.5%) American Indian students were enrolled at one percent of U.S. degree-granting postsecondary institutions. Most American Indian students were enrolled full-time (57%; NCES, n.d.d),

were female (60.5%; NCES, n.d.d), and attended a four-year institution (58.7%; (NCES, n.d.e). While 62% were eligible for the Pell Grant, 76.7% of American Indians received some form of financial aid—the second highest among all ethnicities (NCES, n.d.m). American Indians had the lowest persistence (Guillory & Wolverton, 2008; University of North Carolina, n.d.) and graduation (NCES, n.d.l; University of North Carolina, n.d.) rates of any ethnicity, and were overrepresented among graduates with certificates and associate's degrees and underrepresented among those with bachelor's degrees and higher (NCES, n.d.g, n.d.h, n.d.i, n.d.j, n.d.k; University of North Carolina, n.d.). Thus, studies are warranted that examine variables such as campus engagement, which could potentially promote greater persistence or graduation rates.

Factors that Influence the Engagement and Academic Persistence of American Indian Students in Higher Education

The success of American Indians students in higher education has long-term implications for their future. Lee, Donlan, and Brown (2010) suggested the "future autonomy and self-sufficiency" of American Indians "lies with increasing their success within higher education" (pp. 257-258). Native student success in higher education has broader implications for the success and future of their communities. Several factors influence American Indian student success in higher education. They, however, face numerous challenges that may explain many of the disparities in postsecondary achievement (e.g., persistence and graduation rates) between Native and non-Native students (Lee et al., 2010). This section explores the supports and barriers to American Indian college student engagement and academic persistence. The current study measured

the influence of familism, supportive environment, and student interaction with faculty to better understand the engagement patterns of undergraduate Lumbee commuter students.

Supports. A variety of factors contribute to American Indian student success in college. These factors, described below, include family support, interaction with faculty and staff, social integration, institutional and personal commitment, student self-efficacy, and maintenance of connections with their tribal community.

Family support is critical to American Indian student success in higher education. In a study by Guillory and Wolverton (2008), the family was the number one factor affecting persistence for American Indian students. A strong commitment to their nuclear and extended families, and the hope that a college education would improve the lives of their families, empowered students to overcome difficult situations in college. Guillory and Wolverton (2008) noted, "Some students felt that many people within the community had given them so much support, emotionally, spiritually, and financially, that they owed it to the tribe to succeed" (p. 75). Bowker (1992) credited Native student persistence to strong family support, particularly from mothers and grandmothers. Lin (1990) noted the more education Native parents have, the more support and encouragement they gave to their children's academic endeavors.

Along the lines of familism, maintaining connections to their tribal community is also important to American Indian student persistence, especially for those who attend college away from their home. Many Native students struggle with balancing being a college student with the maintenance of their American Indian identity and connection to their family and tribal community. Lundberg (2007) asserted that engagement in campus

social groups is a predictor of Native student college success. Brown and Robinson Kurpius (1997) found higher levels of social integration for American Indians who were engaged in supportive advocacy organizations for American Indian students. In support, a study by Murguía, Padilla, and Pavel (1991) of American Indian and Hispanic students found that engagement by Native students with Native peers in small enclaves such as Native student organizations, clubs, and small social groups was an essential source of support for American Indian students at PWIs. For students who do not commute or reside in their tribal community while in college, engagement in these enclaves can serve as a proxy for connections with their tribal community.

Interactions with faculty and staff can positively affect students' attitudes, academic achievement, and persistence in college (Brown & Robinson Kurpius, 1997; Pascarella, 1980). Faculty plays a vital role in the retention of American Indian students, especially in shaping a welcoming, supportive, and affirming campus environment (Brown & Robinson Kurpius, 1997). Hornett (1989) noted that faculty "are the persons who can most directly affect the motivation and desire of Indian students to remain in school" (p. 12). A study of American Indian students from 26 states discovered that a "common element of successful dropout prevention programs is that at least one adult establishes a relationship of trust with each youth" (Swisher, Hoisch, & Pavel, 1991, p. 83). In support, Wolf and Melnick (1990) found that 55% of American Indian students indicated a faculty member helped them adjust to campus life.

The support of American Indian faculty and staff also promotes student engagement and academic persistence. Waterman (2007) found that the experiences of

Native students with Native faculty were "richer" than those of Native students with non-Native faculty. Haudenosaunee students in Waterman's study also rated their mentoring relationships with American Indian faculty more positively than those with non-Native faculty. The study also found Native staff to be essential for creating an environment that supports Native students and their needs. Notably, one of the staff cited in Waterman's study received support from her academic department for her efforts to engage Native students—highlighting the importance and role of institutions in facilitating engagement opportunities that promote Native student persistence.

Social integration with faculty, staff, and students also contribute to American Indian student persistence. Suina (1987) found that Pueblo students who persisted were more satisfied with the institution, utilized student support services, and were better integrated academically and socially into the campus community. Guillory and Wolverton (2008) suggested that the social support provided by faculty and peers was essential to creating an environment where students could "adjust psychologically and flourish academically" (p. 75).

The commitment of institutions to meet the academic, social, cultural, and psychological needs of American Indian students is key to Native student persistence in higher education (Wright, 1985). Guillory and Wolverton (2008) suggested that administrators and faculty "who recognize the desire ... of … students to retain strong tribal identities in lieu of assimilating into the mainstream university culture can use this factor as a source of motivation in degree attainment" (p. 59). Institutions must also create welcoming campus environments that help American Indian students make the

transition from high school to college. Academic programs tailored to meet the needs of American Indian students is a way institutions can support the persistence of Native students (Guillory & Wolverton, 2008).

Barriers. The majority of American Indian college students are nontraditional, first-generation college students who are more likely to be employed while in college, have dependents, and live in poverty (Soria & Alkire, 2015). Studies have identified these and other barriers to Native student success in higher education that include family obligations, insufficient academic preparation, inadequate financial aid, "cultural divide," racism, and social isolation. These factors—to be explored in this section—contribute to the low persistence and graduation rates among American Indian students.

While the family has a positive effect on the persistence of American Indian students, it can also be a great source of frustration (Guillory & Wolverton, 2008). The paradox of family includes family obligations such as students serving as caregivers for family members, providing financial and emotional support, being a single parent, and feeling the "pull" from families to come home from college (Guillory & Wolverton, 2008, p. 77; Lee et al., 2010). The student's obligation to family is based in a traditional belief system that recognizes "the survival of Indigenous community is more important than any individual" (Brayboy et al., 2012, p.16). The pull, therefore, is so strong that some students "stop out" or take breaks from school to take care of their family (Guillory & Wolverton, 2008). As a result, students "struggle to find a way to balance their obligations to their families back home with their responsibilities to their new roles as undergraduate students" (Lee et al., 2010, p. 266). This complex dynamic underscores the

need to understand further the role family and familism attitudes play in American Indian college student experiences.

A second barrier is inadequate academic preparation. Carney (1999) posited that most Native students come from poorly funded high schools that lack special programs and support services. Studies suggest that more training in study skills, college preparation, and planning for postsecondary education and careers will improve Native student persistence in higher education (Brown & Robinson Kurpius, 1997; Hoover & Jacobs, 1992; Sakiestewa, 1996; West, 1988). Of note, residential students often have easier access to academic support services that can help ameliorate this barrier.

Financial difficulty is another barrier to Native student persistence. The majority of American Indian students could not attend college without some financial assistance. Among undergraduate recipients of financial aid during the 2015-16 academic year, 76.7% of American Indian students received some form of assistance (NCES, n.d.m). Many American Indian students, out of deference to family obligations based on cultural norms, provide financial support for their nuclear and extended families, either with their financial aid for school or through employment on- or off-campus (Lee et al., 2010). Unfortunately, many Native students lack the financial literacy and knowledge of financial resources necessary to manage their financial aid (Guillory & Wolverton, 2008; Lee et al., 2010). For many, this results in their departure from the institution. The lack of knowledge about financial aid is as much of a barrier to persistence as inadequate financial aid (Guillory & Wolverton, 2008).

Within the campus culture are barriers to students' ability to be comfortable in that environment (e.g., cultural congruence, perceptions of barriers and campus cultural inclusivity; Gloria, Castellanos, Lopez, & Rosales, 2005; Thompson, Johnson-Jennings, & Nitzarim, 2013). American Indian students face blatant racism and cultural bias that is ingrained in higher education structures and philosophies. Racism and bias do not support an Indigenous worldview that is based on holistic understandings and group identity (Brown & Robinson Kurpius, 1997; Carney, 1999). According to Carney (1999),

> [American Indian students] tend to have a more holistic frame of reference concerning themselves and the world. The fragmentation of knowledge that characterizes the academic pattern of separate and distinct disciplines conflicts with their tendency to see knowledge as an interrelated whole. When forced to function in this compartmentalized academic style, they react with a sense of incompleteness and inadequacy to such an apparent reductionist approach. (p. 148)

The environment of higher education, with its formal organizational structure, places emphasis on "individual status and competitiveness over consensual decision making and group identity" (p. 148). Ecklund and Terrance (2013) asserted the "cultural divide" faced by Native students who attend non-Native institutions of higher education makes it difficult for them to connect with their institutions, creating a barrier to their success. The cultural conflicts faced by Native students on college campuses can be "overwhelming, disempowering, and, in some cases, completely debilitating" (Lin, LaCounte, & Eder, 1988, p. 54). This affective response to a negative campus climate could influence Native student's choices about campus engagement. Native students in such situations tend to be reticent and noncompetitive, negatively affecting their academic success, and feel

isolated when they perceive the "White campus is hostile towards them" (Carney, 1999; Lin et al., 1988, p. 13).

Summary. Understanding the American Indian experience in the United States and the factors that influence the enrollment, persistence, and graduation of American Indian college students is essential for institutions to create an inclusive campus culture and provide opportunities for student engagement that support the holistic development of Native students. Knowledge of the major supports for and barriers to American Indian student engagement, such as the role of family, insufficient academic preparedness, unmet financial need, and the significance of American Indian student relationships with faculty and staff, by institutions of higher education can promote the engagement of American Indian students in the campus community.

Student Engagement in Higher Education

The engagement premise first appeared in the literature almost ninety years ago as "time on task" (Kuh, 2009a, 2009b). Since then, student engagement has been recognized as a critical determinant to student success in higher education (Pace, 1984). This section explores the history of student engagement theory and research on the engagement of commuters, American Indian students, and American Indian commuter students.

History of Student Engagement Theory

Psychologist Ralph Tyler's "time on task" concept was the first iteration of student engagement, appearing in the 1930s (Kuh, 2009a, 2009b). Tyler demonstrated the positive relationship between time on task (e.g., curricular activities such as engagement with reading and homework) and learning (Merwin, 1969). During the 1970s, C. Robert

Pace developed the *College Student Experience Questionnaire* (CSEQ) to measure students' "quality of effort" (Kuh, 2009a, 2009b). His work between the 1960s and the 1990s demonstrated that students "gained more from their studies and other aspects of the college experience when they devoted more time and energy to certain [educationally purposeful] tasks that required more effort than others" (Kuh, 2009a; Kuh, 2009b, p. 684). In short, Pace (1984) argued that "what they [(students)] do" is the most important determinant of achievement (p. 44). Such tasks include, but are not limited to, studying, substantive interactions with their peers and teachers, and applying learned material to concrete situations and tasks (Kuh, 2009a).

Astin's theory of involvement. Astin (1975) formally introduced the concept of student involvement in his 1975 book, *Preventing Students from Dropping Out*, and more formally in 1984 (Wolf-Wendel, Ward, & Kinzie, 2009). Astin's (1984) theory of involvement popularized the concept of quality of effort (Kuh, 2009b). Using the results of a longitudinal study on the impact of college on students, he demonstrated the link between involvement and learning outcomes. Astin (1996) suggested that involvement is a "powerful means" for students to enhance their cognitive and psychosocial development (p. 590). Astin (1984) defined student *involvement* as "the amount of physical and psychological energy that students devote to the academic experience" (p. 297).

Astin's (1984, 1999) involvement theory, operationalized as the Input-Environments-Outcomes (I-E-O) model, addresses the role of student involvement (academic and extracurricular) in outcomes such as psychosocial development and

success in college (Wolf-Wendel et al., 2009). Astin's theory (1984, 1999) focuses on the individual student, "as he/she controls the extent of his/her own involvement" (Wolf-Wendel et al., 2009, p. 411). Astin (1999) proposed, "the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that program" (p. 528). Therefore, as student involvement increases, so does the amount of student learning and personal development.

The I-E-O model, which accounts for the time and energy expended by students and acknowledges the role of the environment (Wolf-Wendel, Ward, & Kinzie, 2009), is based on three concepts: inputs, environments, and outcomes (Astin, 1999). Inputs are characteristics a student brings to college, such as gender, race/ethnicity, and social, cultural, and knowledge capital. Environments account for the experiences of the student while in college. Astin's (1977) longitudinal study of 200,000 students reported factors in the college environment that significantly affect a student's involvement in campus activities and persistence. They include: living arrangement (living in a residence hall was positively related to retention); membership in a Greek organization or participation in extracurricular activities such as student government, sports, honors programs, ROTC, and undergraduate research projects (participation suggested students were less likely to drop out); part-time on-campus employment including work study (increased student's time on campus); type of institution (student has a greater chance of dropping out at a two-year institution); and, student-faculty interaction (increased student's satisfaction with college). Outcomes, or developmental goals, are the results of the interchange that

occurs between a student's inputs and experiences/campus environment while the student is in college. In short, Astin (1999) posited the more motivated a student is and the more time and energy the student contributes to the learning process and involvement in campus activities, the higher the desired learning and developmental outcomes.

Subsequent research reaffirmed Astin's (1984, 1999) findings. Pascarella and Terenzini (2005) reported that individual student effort and involvement in curricular and co-curricular activities on campus was the primary determinant of the impact of college. Research indicated that involvement is positively related to gains in general abilities and critical thinking (Gellin 2003; Kuh, Hu, & Vesper, 2000; Kuh & Vesper, 1997; Pascarella, Duby, Terenzini, & Iverson, 1983; Pascarella, Whitt, Nora, Edison, Hagedorn, & Terenzini, 1995; Pike, 1999, 2000; Pike & Killian, 2001; Pike & Kuh, 2005; Pike, Kuh, & Gonyea, 2003; Terenzini, Pascarella, & Blimling, 1996). Student involvement also has a positive link to grades (Astin, 1977, 1993a; NSSE, 2000; Pike et al., 1997) and rates of persistence (Astin, 1985; Pike et al., 1997; Simpson & Burnett, 2017). Astin's widely cited foundational theory has also been used to guide the examination of commuter student involvement (Astin, 1998; Austin, 2006; Jacoby, 2000a; Jacoby & Garland, 2004; Kodama, 2002; Kuh, 2009b; Likins, 1991; Newbold et al., 2011; Silverman, Alibadi, & Stiles, 2009; Wilmes & Quade, 1986).

Astin was also a major contributor to *Involvement in Learning*, a widely cited report that highlighted the importance of student involvement to outcomes such as academic performance, persistence, and educational attainment (Astin, 1999; Kuh, 2009a, 2009b; National Institute of Education, 1984). Also, during the 1980s, an invitational

conference of scholars and educators resulted in the development of seven dimensions of teaching and learning that impact student involvement. Chickering and Gamson (1987) condensed the conference discussions into seven good practices in undergraduate education: (a) student-faculty contact, (b) active learning, (c) prompt feedback, (d) time on task, (e) high expectations, (f) respect for diverse learning styles, and (g) cooperation among students (Kuh, 2009b). Since that time, additional research has addressed different dimensions of student effort and time on task and how they relate to student outcomes in higher education (Kuh, 2009a; Pascarella & Terenzini, 2005; Pike, 2006; Tinto, 1987, 1993). The report foreshadowed shifts in thinking on the role and responsibility of institutions in creating environments that improve student engagement and learning outcomes. While Astin has been a prolific researcher and writer on the topic of involvement in higher education, his theory has not been tested with a population of American Indian commuter students to the researcher's knowledge.

Kuh defines student engagement. In the 1990s, questions arose about how institutions were using their resources and curricula to encourage student involvement in activities positively associated with outcomes such as persistence, satisfaction, and graduation (Kuh, 2001, 2009b; Kuh, Kinzie, Schuh, Whitt, & Associates, 2005; Kuh et al., 1991). As the discourse on involvement evolved to include institutional practices and became more comprehensive, the terminology used to describe it also changed. While researchers such as Astin (1984), Pace (1984), and Kuh et al. (1989) described their concepts of student involvement/engagement in different terms, "their views were based

on the simple, but powerful, premise that students learn from what they do in college" (Pike & Kuh, 2005, p. 186; Trowler, 2010; Yearwood & Jones, 2012).

Kuh (2009a) noted the term *engagement* is now used to represent quality of effort and student involvement in learning activities. Kuh (2009b) defined student engagement as "the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities" (p. 683). The two key components of Kuh's definition are (a) the amount of time and effort students put into their academic studies (student self-efficacy) and (b) the responsibility of institutions use their resources (human and otherwise) to develop learning opportunities and promote student participation in those activities (Wolf-Wendel et al., 2009). In an interview with Wolf-Wendel et al. (2009), Kuh highlighted the important role institutions play in student engagement when he said,

> Involvement doesn't have the link to desired outcomes nor does it have the focus on the institution. It is what the student does. Involvement is not sufficient for advancing institutional efforts—you need to know what the institution is doing as well. (as cited in Wolf-Wendel et al., 2009, p. 417)

Kuh's definition was also influenced by quality of effort measures (Pace, 1980), Astin's (1984) theory of involvement, and the seven good practices in undergraduate education (Chickering & Gamson, 1987; Wolf-Wendel et al., 2009). After the interview with Kuh, Wolf-Wendel et al. (2009) concluded, "student engagement was not developed as an extension of involvement but as an expression of the importance of more explicitly linking student behaviors and effective educational practice" (p. 414).

Student departure scholar John Braxton viewed involvement and engagement as being different. He said, “Engagement is more powerful than involvement” (Wolf-Wendel et al., 2009, p. 418). Shaun Harper, also interviewed by Wolf-Wendel et al. (2009), added to the distinction when he said students can “show up and … legitimately claim that they are involved but they are not really engaged…. Engagement is amount plus depth, which lead to favorable outcomes” (p. 418). Student engagement, therefore, became an indicator of quality, particularly for institutions as they responded to questions about how resources were used to foster student learning and improve the success of students from underrepresented groups (Kuh, 2009b; Kuh et al., 2007). Kuh’s (2009b) definition of student engagement was used for the current study and examined for its relevance to American Indian students.

Commuter Student Engagement

Earlier research on commuter students, Jacoby (1989) argued, was “inconclusive,” “contradictory,” “ungrounded,” and “rife with strongly negative characterizations … based on observation rather than on carefully designed research” (p. 20). Although misconceptions arose about commuter student engagement, research suggests commuters are as engaged as residential students in their academic pursuits despite lower levels of co- and extra-curricular engagement (Burlison, 2015). While commuter students may have constraints on their time, an analysis of NSSE responses from 2000 and 2001 by Kuh et al. (2001) found that commuter students “put forth just as much effort as other students in areas that are primarily related to what goes on inside the classroom” (p. 9). In a study of the quality of student effort, Pace (1984) found that living

arrangement had a neutral rather than positive influence on student outcomes. He said, ". . . the benefit [of living on campus] depends partly on what they [(students)] do, not merely on where they live" (p. 61). While research demonstrates commuters are engaged academically (Burlison, 2015; Kuh et al., 2001), Krause (2007) noted the importance of commuter student peer interaction and suggested more research is needed to learn more about commuter student engagement, particularly during their first year, and to provide administrators with the requisite tools necessary to design programs and provide services that promote commuter student success.

American Indian Student Engagement

The foundational theories of college student development, including Astin's (1999) theory of involvement, have been criticized for their limited relevance and applicability to underrepresented student populations, such as American Indians (Tierney, 1992; Torres, Howard-Hamilton, & Cooper, 2003). The criticism stems from the theory's initial development, which was based on the clinical observations and experiences of primarily White men—a sample that is not reflective of the present-day higher education demographic (Winkle-Wagner & Locks, 2014).

The paradigms of involvement (Astin, 1996), integration (Tinto, 1987), and engagement (Kuh, 2009b) suggest students' family and home community detract from their development in college by "pulling students' attention away from the college experience" (Lundberg & Lowe, 2016, p. 5). For American Indian students, this is problematic as family and connection to tribal community is the number one factor affecting their persistence (Bass, 2013; Brown & Robinson Kurpius, 1997; Guillory &

Wolverton, 2008; Huffman, 2001; Jackson, Smith, & Hill, 2003; Schiller & Gaseoma, 1993), educational experiences that are positive (Okagaki, Helling, & Bingham, 2009), and grades (Huffman, Sill, & Brokenleg, 1986). Lundberg and Lowe (2016) noted that American Indians experience challenges and a cultural conflict when their institution deems the time they need to return home for tribal ceremonies is excessive (Garrod & Larimore, 1997; Waterman, 2012). In a study of Haudenosaunee students by Waterman (2012), regular visits to home helped students maintain connections to their culture and spiritualities. In contradiction to Astin's (1999) theory of involvement and Kuh's (2009b) engagement model, Native students in Waterman's (2012) study "who often went home earned degrees despite regular, even weekly, disengagement from the campus community. Maintaining a strong connection to their home community likely increased the support students received from their families" (as cited in Lundberg & Lowe, 2016, p. 6). Because of the key role played by family, and the lack of inclusion of family-related variables in the typical involvement/engagement measures, the current study examined familism as a potentially relevant factor for Native students.

Commitment to their tribal community, and, more importantly, the lack of understanding by institutions about the significance of this relationship, may also impact the engagement of American Indian students in academic and pre-professional programs essential to their academic success (Herzig, 2004). The Native student's commitment:

> to community may make it difficult for some Native students to participate in research-related and extracurricular academic activities and events, further isolating students from the communities of their department, especially in programs that are inflexible and built around narrow models of how students should participate in departmental communities. On the other hand, studying in

> graduate programs far from home means Indigenous students may not have access to their primary sources of support—family and community (Heinonen, 2002; Moon, 2003; Secatero, 2009). (Brayboy et al., pp. 79-80)

Several studies identified how American Indian students' academic engagement is positively related to their success in higher education. Native students who interact with their peers in an academic setting have a greater sense of belonging (Soria & Alkire, 2015). Supportive faculty-student interactions help Native students adjust to college (Brown & Robinson Kurpius, 1997; Pavel & Padilla, 1993; Wolf & Melnick, 1990) and with their persistence (Jackson et al., 2003; Swisher et al., 1991). Mentoring programs have also been shown to increase American Indian student engagement in college (Garland, 2010) and help students overcome potential barriers to their success (Shotton, Oosahwe, & Cintron, 2007). Faculty and staff mentoring is important to navigating and balancing cultural and environmental values in college (Gloria & Rodriguez, 2000). Native students rated their mentoring relationships with American Indian faculty more positively than those with non-Native faculty (Waterman, 2007). Freeman and Fox (2005) suggested that the very small number of Native faculty is limiting for Native students; during the fall of 2016, less than one percent (0.5%) of the full-time faculty in the United States was American Indian—slightly less than the 0.8% of college students who are American Indian (NCES, n.d.d, n.d.f).

Establishing supportive networks is also important to American Indian student integration and sense of belonging. Membership in a Native student organization contributes to social integration and higher levels of persistence (Brown & Robinson Kurpius, 1997; Jackson et al., 2003). A socially supportive network and comfort in the

university environment are also crucial to Native student persistence (Jackson et al., 2003). In shifting the responsibility for student success to the institution, Lundberg (2007) found that American Indian students had higher levels of learning when the institution demonstrated a strong commitment to diversity.

Utilization of HeavyRunner and DeCelles's (2002) Family Education Model (FEM) is a way for institutions to simultaneously facilitate American Indian student engagement, promote the familial support network, and demonstrate a commitment to Native student success as suggested by Kuh (2009b) and Lundberg (2007). The FEM, developed by American Indian educators, social workers, and university advisors, suggests universities should recreate the extended family structure within the institutional setting to enhance American Indian students' feeling of belonging and support. The model retains the connection to family and the tribal community within the college culture, further enhancing American Indian students' sense of belonging, and, consequently, leads to higher retention rates (Guillory & Wolverton, 2008).

The FEM has contributed significantly to the development of methods that improve American Indian student sense of belonging and persistence through the empowerment of the extended family. The model suggests that institutions of higher education must be proactive in engaging family members in the campus community by enlisting them as partners and involving them in campus programming (HeavyRunner & DeCelles, 2002). The actions of institutions should "create an environment that honors and includes the extended family and nurtures appropriate partnerships" (p. 30). Consequently, Native families would no longer feel resentful of students spending time

on campus because the family developed a sense of belonging at the institution. In addition, American Indian student persistence would be fortified through the establishment and maintenance of a sense of "family," both on and off campus. In a similar vein, the current study seeks to include family-related variables in the analysis to predict engagement.

American Indian commuter student engagement. While the studies mentioned above confirmed the relationship between American Indian student engagement and persistence, research on the success of American Indian commuter students in higher education is rare. In one of the few studies about American Indians that mentions living arrangement, Soria and Alkire (2015) found the time Native students spend with their families off campus may impact their ability to interact with peers on campus. In Lundberg's (2007) study on the impact of institutional commitment to diversity and Native student persistence, 71% of the 643 American Indian students in the study lived on or near campus. Lundberg mentioned no findings related to living arrangement since they were not statistically significant. This gap in the literature on American Indians who are commuter students demonstrates the need for additional research on the topic, namely the role of family in American Indian commuter student engagement and success, the engagement of American Indian commuter students beyond academic activities, and the development of an engagement model for American Indian commuter students not based in the centuries-old residential paradigm.

Measuring Student Engagement

By the close of the 1990s, accrediting agencies began requiring institutions to provide evidence the institutions were assessing student outcomes and using that data to improve student learning. For the first time, many institutions were compelled to consider student engagement as an indicator of quality and its role in improving student outcomes (Kuh, 2009b). The call for assessment, accountability, and transparency led to the development of measures of student engagement (Kuh, 2009a, 2009b). This section explored the development of the National Survey of Student Engagement and its purpose, 10 Engagement Indicators, six High-Impact practices, validity, and reliability. Also explored is Fuligni et al.'s (1999) Current Assistance to the Family subscale, which measures the influence of family obligations on student engagement.

The National Survey of Student Engagement

Utilizing decades of empirical research on the significance of student engagement, particularly the seven good practices in undergraduate education (Chickering & Gamson, 1987), and Kuh's (2009a) work on student engagement, the National Survey of Student Engagement (NSSE) was developed in 1999 by a design team of scholars and practitioners, including Kuh, and launched in 2000 by the Indiana University Center for Postsecondary Research (Kuh, 2009a; Wolf-Wendel et al., 2009). The NSSE "is an instrument specifically designed to assess the extent to which students are engaged in empirically derived, good educational practices and what they gain from their college experiences" (Wolf-Wendel et al., 2009, p. 413). *The College Student Report*, the NSSE survey instrument, is administered annually and collects information

from first-year and senior students at hundreds of four-year colleges and universities about how they spend their time, the quality of their experience, and what they get from the college experience (Kuh, 2002; NSSE, 2018a, 2018b, 2018e). The NSSE is the most widely used student engagement instrument (Pike & Kuh, 2005), and has been administered to more than 1,600 bachelor's granting institutions of higher education in the United States and Canada since 2000 (NSSE, 2018a).

Annual reports of the NSSE results are sent to participating institutions. The NSSE reports institutional results on 10 Engagement Indicators, grouped into four themes, and six High-Impact practices (see Table 1).

- The ***Academic Challenge*** theme reflects how students address academic challenges in the classroom and prior preparation using the four indicators: (a) Higher-Order Learning, (b) Reflective & Integrative Learning, (c) Learning Strategies, and (d) Quantitative Reasoning (NSSE, 2013, 2014).
- The ***Learning with Peers*** theme recognizes the benefits of student interaction and peer support, particularly with students from heterogeneous backgrounds, using the two indicators of Collaborative Learning and Discussions with Diverse Others.
- The ***Experiences with Faculty*** theme includes meaningful and impactful Student-Faculty Interaction and Effective Teaching Practices used by faculty that have a positive impact on students.
- The ***Campus Environment*** theme, which includes the indicators Quality of Interactions and Supportive Environment, is designed to reflect the

atmosphere in which student interactions with faculty and their peers take place.

- ***High-Impact Practices*** include participating in a learning community, internship or field experience, study abroad program, collaborating with a faculty member on a research project, and a culminating senior experience. The practices "demand considerable time and effort, provide learning opportunities outside the classroom, entail meaningful interactions with faculty and students, encourage interactions with diverse others, and provide frequent meaningful feedback" (Long, Sandler, & Topol, 2017, p. 51).

Each institutions' scores highlight areas of student engagement inside and outside the classroom that need attention and can prompt actions by the institutions to improve these areas of the student experience and the desired learning outcomes through changes in policies and practices more consistent with the seven good practices in undergraduate education (NSSE, 2015, 2018a).

Empirical and conceptual gaps exist in NSSE, particularly as they relate to American Indian students. Of the 2018 NSSE respondents in the United States, one percent self-reported as American Indian (NCES, n.d.b). The NSSE, with its focus on campus engagement, fails to collect American Indian students' tribal affiliation and data on their engagement in tribal activities and ceremonies and Native-related campus activities. As Waterman (2012) demonstrated, American Indian students who maintain strong connections to their culture, spiritualities, and home communities, whether through interaction with American Indian faculty or staff, engagement in American

Indian student organizations, or regular visits to their home communities during the academic year, have higher levels of persistence and graduation. To bridge the empirical and conceptual gaps in NSSE, the current items need to be tested and evaluated for meaningful connections to American Indian students. In addition, culturally relevant items need to be added to better measure and understand Native student engagement in campus and cultural activities, on and off campus, and the influence of campus and tribal engagement on their success in higher education.

Validity and reliability. Since its launch in 2000, the NSSE has been tweaked using data collected from focus groups, cognitive testing, and various psychometric analyses (Kuh, 2009a). NSSE has also used extensive pilot testing to ensure the validity and reliability of the measure. Accordingly, new, continuing, and updated items were tested for clarity and applicability of survey language and to develop new measures related to effective teaching and learning (NSSE, 2018g). The process for revising the measure included the use of cognitive interviews and focus groups with students along with feedback from institutional users of the survey. Engagement Indicators were developed using exploratory and confirmatory factor analysis, reliability analysis, item response theory, generalizability theory, and known groups comparisons. Consequently, the psychometric properties of the NSSE are "very good" (Kuh, 2009a, p. 13) and "acceptable, especially when aggregated across multiple institutions" (Kuh, 2009b, p. 687). The researcher, however, is unaware of the psychometrics for the American Indian student population. The NSSE's Psychometric Portfolio is available on the NSSE website (NSSE, 2018g).

Validity. Sheehan (Sauser & Sheehan, 2005) argued that the discussion of validity analyses for the NSSE were "equally thorough" (para. 17). The NSSE (2018j) addressed seven forms of validity. Response process validity is the "extent to which the actions and through processes of test takers or survey responders demonstrate that they understand the construct in the same way it is defined by the researchers" (para. 4). While there is no statistical test for response process validity, it can be observed through respondent observation, interviews, and feedback. Content validity is the "extent to which a measure represents all facets of a given subscale or construct" (para. 6). Like response process validity, there is no statistical test. While NSSE relied on experts to determine whether or not the instrument measured the construct well, it is unknown whether they were assessing the content validity with different populations in mind. Construct validity is the "extent to which a measure correlates with the theorized construct that it purports to measure" (para. 8). However, the theorized construct may have embedded a majority bias. The measure is intended to operationalize the concept by gathering observable details that reflect the underlying phenomenon. Overall, fit indices, factor correlations, and regression weights provided sufficient construct validity evidence (Miller, Sarraf, Dumford, & Rocconi, 2016). Concurrent validity "refers to the degree to which a construct correlates with other measures of the same construct that are measured at about the same time" (para. 10). Predictive validity is the "extent to which a score on a subscale or test predicts scores on some criterion measure in expected ways" (para 12). Known groups validity is the extent to which a measurement is sensitive to differences and similarities in various groups (e.g., men and women, students in various programs of

study, or students enrolled at different types of institutions) which are established in other studies. T-tests and analyses of variance (ANOVA) determined that there were significant differences in the mean scores of groups based on ethnicity (NSSE, 2010). However, the ethnicities included in the analyses were not listed. Last, consequential validity is established by evidence of the intended and potential consequences of the instrument, such as to improve the undergraduate experience, both inside and outside of the classroom. In summary, the NSSE has demonstrated its statistical validity but has not had a focus on American Indian populations in that validity testing.

Reliability. The NSSE evaluated the reliability of internal consistency, temporal stability, and equivalence to assess "the extent to which items within a subscale are internally consistent or homogenous and the extent to which results are similar across periods of time or different forms of the NSSE survey" (NSSE, 2018h, para. one). These measures of reliability are defined by NSSE (2018h) in the following way. Internal consistency is the "extent to which a group of items measure the same construct, as evidenced by how well they vary together, or intercorrelate" (para. two). Temporal stability "refers to the consistency of scores over time, as evidenced by the correlation of the score on two occasions" (para. three). Equivalence reliability is "measured by the correlation of scores between different versions of the same instrument, or between instruments that measure the same or similar constructs" (para. four).

Sauser and Sheehan (2005) argued that the reliability data demonstrated that NSSE provides scores that are consistent and respectable. For Cronbach's alpha coefficient for the Engagement Indicators, see Table 8. A score of 0.70 or higher is

acceptable. Sheehan (Sauser & Sheehan, 2005) found "the psychometric evidence presented indicates the NSSE can accomplish its purpose—to assess student engagement along several dimensions" (para. 17) and is a psychometrically sound instrument.

Table 8

Internal Consistency of NSSE Engagement Indicators for First-Year and Senior Students as Reported by NSSE (2017)

Engagement Indicator	First-Year	Senior
Higher-Order Learning	.84	.84
Reflective & Integrative Learning	.85	.87
Learning Strategies	.76	.77
Quantitative Reasoning	.82	.83
Collaborative Learning	.82	.82
Discussions with Diverse Others	.86	.89
Student-Faculty Interaction	.82	.84
Effective Teaching Practices	.84	.86
Quality of Interactions	.86	.83
Supportive Environment	.88	.88

Note. Source: NSSE (2018e).

NSSE validity and reliability and American Indian students. One percent of the 2018 NSSE respondents in the United States self-reported as American Indian (NCES, n.d.b). The researcher was not able to determine if American Indian students were included in the construction, initial validation, and subsequent validation of the NSSE after reviewing NSSE's (2018g) Psychometric Portfolio and the inability to locate

relevant studies. A gap exists in the NSSE if its reliability with American Indian students has not been examined.

Current Assistance to the Family Subscale

Many American Indian college students struggle to balance their family obligations with being a college student (Lee et al., 2010). Consequently, family obligations could influence the engagement of American Indian students; that hypothesis has not been tested to the researcher's knowledge. As part of a 1999 study, Fuligni et al. developed three measures—(a) Current Assistance to the Family, (b) Respect for the Family, and (3) Future Support to the Family as Adults—to assess views toward family obligations held by individuals from cultures that value the interests of the community over those of the individual (which is true of American Indian peoples). The study's participants were more than 800 tenth grade U.S. adolescents who had Filipino, Chinese, Mexican, Central and South American, and European backgrounds. The adolescents completed each measure twice. The first response collected the adolescents' perceptions of their parents' view on family obligation and the second asked the adolescents about their views. The study had two significant findings. First, attitudes toward their duty to assist, respect, and support their families were stronger among Asia and Latin American adolescents than their peers with European backgrounds. Second, adolescents from families with collectivistic traditions maintained the familistic values of their parents. Fuligni et al. noted that these values did not have a negative impact on the development of these adolescents even within U.S. society which places a strong emphasis on adolescent autonomy and independence.

The Current Assistance to the Family subscale, with its 11 items (see Table 10 in Chapter III), assesses the expectations of how often adolescents should assist with household tasks and spend time with their family. The subscale was selected for use in this study because the Indigenous Knowledge Systems of American Indians emphasize "notions of community and its concomitant survival . . . as more important than any individual" (Brayboy et al., 2012, p. 16). The subscale was used in the current study to measure the influence of family obligations on the engagement of undergraduate Lumbee commuter students in campus activities. Although many cultural values of American Indians are discussed in this chapter, familism was selected for inclusion because of the paradox of family for students. The family has a positive effect on the persistence of American Indian students but is a great source of frustration because they struggle to try to find a way to balance being a student with family obligations (Guillory & Wolverton, 2008).

There are empirical and conceptual gaps in the subscale as they relate to American Indians. None of the respondents, as mentioned by Fuligi et al. (1999), were American Indian. Second, since the subscale was developed for an adolescent sample, none of the items ask respondents about a spouse, fiancé, or child(ren). For the current study, family can mean any member of the nuclear and extended family, including parents, spouse, fiancé, and child(ren). No studies could be located to determine if the three measures have been validated with American Indian students. However, the subscale has been validated with members of several collectivistic cultures; it is

reasonable to hypothesize (and then text) that it will be relevant for American Indian students as well.

Validity and reliability. Information about the validity and the reliability of the subscale was either not available or very limited. The subscale was developed after Fuligni et al. (1999) conducted a series of focus groups with adolescents and reviewed the literature on filial piety and family obligations. They reported the subscale possessed "good" internal consistency for perceived expectations of family obligations by parents (α = .83) and students (α = .87) and was reliable across the different ethnic groups, with alphas ranging from .79 to .87 (p. 1033). However, the Fuligni familism measure has been used by many other researchers in the past two decades, with validity and reliability included in those subsequent studies. The Fuligni et al. (1999) article with the familism subscale has been cited 1098 times (per a Google Scholar search) and is used mostly with adolescents from Asian American and Latin American backgrounds.

Subscale validity and reliability and American Indian students. The researcher was not able to determine if American Indian students were included in the construction or validation of the subscale. A gap exists in the subscale if its reliability with American Indian college students has not been examined; however, given the "research asterisk" mentioned previously, very few measures have been rigorously evaluated with American Indian populations.

The Relationship between Students' Characteristics, Experiences, and Engagement

Researchers demonstrated that the characteristics of students responding to the NSSE (i.e., age, gender, enrollment status, place of residence, employment status) affect

students' level of engagement in campus activities (Pike, 2004). While commuter students may have constraints on their time, researchers demonstrated that commuters are as engaged academically as residential students (Burlison, 2015; Kuh et al., 2001). Krause (2007) suggested that more research is needed to learn more about commuter student engagement. The current study used as independent variables the student characteristics of gender, academic classification, self-reported grade point average, and family obligations as well as the experience of membership in a student organization to explore the relationships between undergraduate Lumbee commuter student characteristics and their engagement.

Gender

National statistics and studies demonstrate a difference in engagement and academic performance for female and male students. Females outnumber males at postsecondary institutions in the United States. During the fall of 2016, 56.4% of students enrolled in degree-granting postsecondary institutions were female compared to 43.6% who were male (NCES, n.d.c). Female enrollment first eclipsed that of males in 1979 and has maintained a majority since. Females account for the largest share of college students among all ethnicities except Pacific Islanders. Among American Indians, females also account for the majority (60.4% or 86,000) of college students when compared to males (39.6% or 56,300; NCES, n.d.d). In addition, Native females have a higher rate of degree attainment than Native males (see Table 7; NCES, n.d.g, n.d.h, n.d.i, n.d.j, n.d.k; University of North Carolina, n.d.).

A study by Kinzie et al. (2007) examined the engagement and academic performance patterns of female and male students. Using data collected from students who completed the NSSE in 2005 or 2006, they found that first-year and senior male students dedicated more time to non-academic activities (e.g., relaxing and socializing, exercising and participating in physical fitness, and co-curricular activities) than female students. Male students also came to class unprepared at higher rates than female students. Female students, though, dedicated more time and effort to academic activities (e.g., studying, preparing multiple drafts of papers, and making class presentations). Female students also reported more significant gains in personal development and talked more with faculty about career plans and engaged peers about course readings. Male students reported more significant gains in solving complex, real-world problems and more often tutored their peers outside of the classroom on academic matters. Female students, though, reported higher grade point averages than male students.

Mixed evidence also points to differences in the level and type of on-campus engagement between female and male students (López Turley and Wodtke, 2010). Male residential students are more engaged (Arboleda, Wang, Shelley, & Whalen, 2003) and have higher grades and lower levels of academic difficulty than female students (Nowack & Hanson, 1985). In contrast, other studies suggest that female students are more engaged in extracurricular activities and interactions with faculty than male students (Chapman & Pascarella, 1983; Sax, Bryant, & Harper, 2005).

Academic Classification

A student's ability to cope effectively with the transition to college is related to their persistence to graduation (Fenzel & Hessler, 2001). The first two-to-six weeks of the fall semester are the most critical period for students in making that transition (Levitz & Noel, 1989). Therefore, institutions should provide opportunities for students to be engaged at the beginning of the semester (Evans, Forney, & Guido-Dibrito, 1998). In a study of student engagement in campus organizations, Foubert and Grainger (2006) found enhanced development occurred in students who completed their first year of college and at the conclusion of their college experience.

> Students with higher levels of engagement in student organizations reported greater levels of psychosocial development in the areas of establishing and clarifying purpose, educational involvement, career planning, life management, and cultural participation. This relationship between involvement and development was statistically significant both after students' first year in college and at the end of their senior year. (p. 6)

Although the NSSE is administered to first-year and senior-year students to understand better differences in what they do in college and what they are learning between their first and senior years, the current study analyzed data from undergraduate Lumbee commuter students at UNC Pembroke to gauge their engagement across the four academic classifications (freshman, sophomore, junior, and senior).

Grade Point Average

Numerous studies have shown a positive link between student engagement and academic performance (Astin, 1977, 1993a; NSSE, 2000; Pike et al., 1997). Other researchers found similar results. In a quantitative study of community college students

who participated in learning communities, Bonet and Walters (2016) found a high positive impact on grades and course completion rates. Participation in research by undergraduate students during their first year is significantly and positively related to satisfaction in the university by first-year students and fourth-year undergraduate grade point averages (Bowman & Holmes, 2018).

Membership in a Student Organization

Engagement in campus organizations contributes to a student's ability to cope effectively with the transition to college and persist (Fenzel & Hessler, 2001). Students with higher levels of engagement in campus organizations have greater levels of psychosocial development in the areas of establishing and clarifying purpose, educational engagement, career planning, life management, and cultural participation (Foubert & Grainger, 2006).

For American Indian students, engagement in campus organizations facilitates the establishment of supportive networks which contribute to integration, sense of belonging, and persistence. Many Native students struggle with balancing being a college student with the maintenance of their American Indian identity and connection to their family and tribal community. A socially supportive network on campus and comfort in the university environment are essential to Native student persistence (Jackson et al., 2003). Lundberg (2007) asserted that engagement in campus social groups is a predictor of Native student college success. Brown and Robinson Kurpius (1997) found higher levels of social integration for American Indians who were engaged in supportive advocacy organizations for American Indian students. In support, a study of American Indian and

Hispanic students by Murguía et al. (1991) found that engagement by Native students with Native peers in small enclaves such as Native student organizations, clubs, and small social groups was an important source of support for American Indian students at PWIs. Consequently, membership in a Native student organization can help American Indian students strengthen the bond between themselves, their tribal community, and their institution.

Family Obligations

Commuter students have the responsibility of balancing competing commitments that include school, work, family, and other responsibilities. Their difficulties with balancing these and other forces in their lives that seek to garner a share of their finite time and energy reduces the amount of time commuter students have to dedicate to their studies, especially engagement on campus (Astin, 1985; Fairchild, 2003; Gefen & Fish, 2013; Jacoby, 2000b; Wilmes & Quade, 1986).

The cultural identity of commuters who are Lumbee is defined by kinship (family), reciprocity, and relationship to the land (Lowery, 2010). Within the traditional belief systems of American Indian peoples and Lumbees is the belief that "the survival of Indigenous community is more important than any individual" (Brayboy et al., 2012, p.16). Fuligni et al. (1999) best described this paradigm in the following way:

> Cultures with a collectivistic orientation emphasize the goals and interests of the group over those of individual members (Triandis, 1995). The decisions, behavior, and self-definition of individuals within such a tradition are expected to reflect the needs, values, and expectations of the large group (Markus & Kitayama, 1991; Triandis, Bontempo, Villareal, Asai, & Lucca, 1988). Perhaps the most salient domain for the expression of these values is the family. A critical aspect of a collectivistic ideology is a strong concern for the fate and well-being

> of one's kin, and family members within collectivistic cultures often are expected to support each other and to assist in the maintenance of the household (Kagitcibasi, 1990; Lee, 1983; Triandis, 1990). The needs of the family usually have priority, and individual members often are asked to downplay their own needs and desires if they conflict with those of the larger family (Huang, 1994). (p. 1030)

Consequently, Lumbee commuters struggle to balance being students (needs of the individual) with the maintenance of their tribal identity, connection to family, and, most importantly, family obligations (needs of the group; Guillory & Wolverton, 2008; Waterman, 2007, 2012). The family is the number one factor affecting the persistence of American Indian students in higher education (Bass 2013; Guillory & Wolverton, 2008). Many Lumbee students desire to maintain their tribal identity, support network, and connection to their culture, community, and family by continuing to reside in their tribal community while in college (Deyhle & Swisher, 1997; Guillory & Wolverton, 2008; Waterman, 2007, 2012). Family obligations, though, can be a great source of frustration for Native students who serve as caregivers for family members, provide financial and emotional support, are a single parent, and feel the "pull" from families to come home from college (Guillory & Wolverton, 2008, p. 77; Lee et al., 2010). These obligations and Lumbee cultural values on the family may detract from their development in college by "pulling students' attention away from the college experience" (Lundberg & Lowe, 2016, p. 5).

Conclusion

American Indian nations and their students who attend higher education institutions in the United States struggle "to succeed in education on their own terms—

achieving mastery and maintaining a strong cultural identity while resisting assimilation" (Larimore & McClellan, 2005, p. 21). American Indian students commute to their institution of choice for many reasons, including the necessity to maintain connections to their tribal communities. While this literature review highlighted the supports and challenges they face and how their cultural values impact their experiences and outcomes in colleges, gaps remain in the literature pertaining to American Indian commuter students and campus engagement. An overview of the quantitative approach to the current study is provided in Chapter III.

CHAPTER III

METHODOLOGY

This chapter discusses the methodology used to examine the engagement of undergraduate Lumbee commuter students at the University of North Carolina at Pembroke (UNC Pembroke) using the National Survey of Student Engagement (NSSE) and Fuligni et al.'s (1999) Current Assistance to the Family subscale. Presented in the chapter are the research questions and hypotheses, research design, study population, data collection procedures, instrumentation, and data analyses utilized in this study.

Research Questions and Hypotheses

The following research questions and hypotheses guide this study:

1. Is there a difference in student engagement by gender among undergraduate Lumbee commuter students at UNC Pembroke?

   H_0: There is no difference between male and female undergraduate Lumbee commuter student engagement at UNC Pembroke.

   H_1: There is a difference between male and female undergraduate Lumbee commuter student engagement at UNC Pembroke.

2. Is there a difference in student engagement by academic classification among undergraduate Lumbee commuter students at UNC Pembroke?

   H_0: There are no differences between freshman, sophomore, junior, senior, and unclassified Lumbee commuter student engagement at UNC Pembroke.

H_1: There are differences between freshman, sophomore, junior, senior, and unclassified Lumbee commuter student engagement at UNC Pembroke.

3. Is there a difference in student engagement by grade point average among undergraduate Lumbee commuter students at UNC Pembroke?

   H_0: There are no differences between the engagement of undergraduate Lumbee commuter students at UNC Pembroke who have grade point averages of 4.0 to 3.5, 3.49 to 3.0, 2.99 to 2.5, 2.49 to 2.0, and 1.99 or lower.

   H_1: There are differences between the engagement of undergraduate Lumbee commuter students at UNC Pembroke who have grade point averages of 4.0 to 3.5, 3.49 to 3.0, 2.99 to 2.5, 2.49 to 2.0, and 1.99 or lower.

4. Is there a difference in student engagement by membership in a student organization among undergraduate Lumbee commuter students at UNC Pembroke?

   H_0: There are no differences in the engagement of undergraduate Lumbee commuter students at UNC Pembroke based on (a) membership in American Indian and non-American Indian student organizations, (b) membership in only American Indian student organizations, (c) membership in only non-American Indian student organizations, and (d) not being a member of a student organization.

   H_1: There are differences in the engagement of undergraduate Lumbee commuter students at UNC Pembroke based on (a) membership in American Indian and non-American Indian student organizations, (b) membership in

only American Indian student organizations, (c) membership in only non-American Indian student organizations, and (d) not a member of a student organization.

5. To what extent do family obligations predict the engagement of undergraduate Lumbee commuter students at UNC Pembroke?

   H_0: Family obligations is not a predictor of engagement for undergraduate Lumbee commuter students at UNC Pembroke.

   H_1: Family obligations is a predictor of engagement for undergraduate Lumbee commuter students at UNC Pembroke.

Research Design

The study employed a quantitative cross-sectional, single institution research design using the NSSE's survey instrument *The College Student Report* (NSSE, 2018f), which was adapted to fit the study's needs, and Fuligni et al.'s (1999) Current Assistance to the Family subscale (see Appendix A). A quantitative research design was chosen because of the researcher's interest to use the NSSE to collect data on undergraduate Lumbee commuter students since it is the most widely used engagement measure in higher education.

Study Population

The data for this study were collected from 144 currently enrolled undergraduate American Indian students at UNC Pembroke who culturally or legally identify as a citizen of the Lumbee Tribe of North Carolina, commute to campus, and are age 18 years of age or older. UNC Pembroke is a public, four-year institution in North Carolina

established in 1887 with a mission to train Lumbee teachers (Eliades et al., 2014). UNC Pembroke was chosen for two reasons. First, the university is a federally designated Native American-serving nontribal institution whose student body of 7,137 is 14.6% (1,040) American Indian (Institutional Research, 2018; The University of North Carolina at Pembroke, n.d.b; U.S. Department of Education, 2014). UNC Pembroke has the thirteenth largest American Indian undergraduate student enrollment among all U.S. four-year institutions, including Tribal Colleges and Universities, and the eighth largest among all U.S. public four-year institutions (*Winds of Change*, 2017). Second, there is a paucity of research on two American Indian populations present at the institution: commuter students and Lumbee students. At UNC Pembroke, 85.3% of the undergraduate American Indian students are commuters (Institutional Research, 2018). This high percentage of American Indian commuter students is similar to the national trend where commuters represent 87% of all postsecondary students in the United States (NCES, 2014). Also, the overwhelming majority of American Indian students at UNC Pembroke are Lumbee. The institution's large American Indian commuter and Lumbee populations make it an ideal fit for this study. The researcher received a resolution of support for this study from the Tribal Council of the Lumbee Tribe of North Carolina (see Appendix B).

Required Sample Size

NSSE's 10 Engagement Indicators were grouped into four themes prescribed by NSSE (academic challenge, learning with peers, experiences with faculty, and campus environment; see Table 9). The four themes served as the dependent variables for the current study. To compute the required sample size for the current study, the researcher

used the 10:1 rule of thumb which suggests 10 observations per level of each independent variable. Consequently, the sample size required for the current study was 140.

Data Collection and Procedures

This study utilized non-probability and snowball sampling methods (Rea & Parker, 1997). Participants were recruited via email and social media messaging. The researcher received support from UNC Pembroke's Center for Student Success (CSS; see Appendix C) to send a recruitment email (see Appendix D) to the institution's American Indians via the American Indian student listserv with a survey link and information about the survey. The email was sent to all American Indian students since the tribal affiliation is unknown for many of UNC Pembroke's American Indian students; the university does not require students to report their tribal affiliation. A recruitment message was also posted on the social media site Facebook (see Appendix E).

Data collection began February 20, 2019, and the survey was available initially for two weeks. On the first day of data collection, the CSS sent the recruitment email (see Appendix C), describing the purpose of the study, incentives offered for participation in the study, a web link to the survey, and the closing date of the survey, to the American Indian student listserv to inform students the survey was live. Respondents were assured that no personally identifying information, including IP address, was collected. The social media message (see Appendix E) was also posted. The introduction of the online survey included the IRB Information Sheet (see Appendix F). The study was approved by the Institutional Review Boards at the University of North Carolina at Greensboro (see Appendix G) and UNC Pembroke (see Appendix H). An inter-institutional agreement

was created between UNC Greensboro and UNC Pembroke since UNC Pembroke was the site where the study's participants were recruited (see Appendix I). The survey was hosted on Qualtrics, an online assessment platform used by UNC Greensboro. The respondents landed on a "Thank You" page when the survey was completed. Respondents interested in entering the random drawing for the incentives clicked a web link which redirected them to a second, separate Qualtrics survey (see Appendix J) that collected their contact information online. If completed, the interested participants were entered into a drawing for one of the six $25.00 gift cards. The names of drawing participants were downloaded from Qualtrics. A random number generator was used to choose six numbers associated with an entry in the Excel sheet.

Students had two weeks to respond to the survey and were asked to complete it by March 1, 2019. A follow-up email (see Appendix K) was sent February 25, 2019, one week before the close of the survey, asking those who had not responded to complete the survey. The deadline for completion of the survey was extended through March 15, 2019, to accommodate for UNC Pembroke's spring break (March 4-8, 2019) and to allow more time for participants to respond. The follow-up email (see Appendix K) was resent March 12, 2019 and March 14, 2019.

Participants

Responses were gathered from 144 participants. An examination of participants revealed 113 females (78.5%) and 31 males (21.5%) responded to the survey (see Table 15 in Chapter IV). Sixty percent of American Indian undergraduate students at UNC Pembroke was female (Institutional Research, 2018). Two-thirds (66.0%) of the

participants were 18-24 years of age (*M* = 2.15; see Table 16 in Chapter IV). Slightly more than three-of-four participants (79.2%) were enrolled full-time (see Table 17 in Chapter IV). Three-of-five (64.6%) participants were either a senior (41.7%) or a junior (22.9%; see Table 18 in Chapter IV). A significant percentage of participants (86.1%) self-reported a grade point average (GPA) higher than 2.5: 4.0 to 3.5 (25.7%), 3.49 to 3.0 (36.1%), and 2.99 to 2.5 (24.3%; see Table 19 in Chapter IV). While two of five respondents (43.7%) were currently or have been members in either American Indian and non-American (22.9%), only American Indian (11.8%), or only non-American Indian (9.0%) student organizations, 56.3% reported not currently nor have ever being members of student organizations (see Table 20 in Chapter IV).

Instrumentation

Student engagement was measured using the NSSE's survey instrument *The College Student Report* (Kuh, 2009a) and Fuligni et al.'s (1999) Current Assistance to the Family subscale. The researcher received permission for the use of the NSSE, the subscale, and other demographic items (see Appendices L, M, and N).

The National Survey of Student Engagement

Two critical features of educational quality are represented by student engagement and measured by the NSSE. They are (a) amount of time and effort students put into their studies and other educationally purposeful activities and (b) how institutions deploy their resources and organizes the curriculum and other learning opportunities to get students to participate in activities that are linked to student learning (NSSE, 2018a). Kuh's (2009b) definition of student engagement linked Astin's (1984) self-efficacy of

students (feature a) with institutional responsibilities to facilitate student engagement (feature b).

The NSSE was chosen as the data collection instrument for this study for several reasons. First, the NSSE "is an instrument specifically designed to assess the extent to which students are engaged in empirically derived, good educational practices and what they gain from their college experiences" (Wolf-Wendel et al., 2009, p. 413). In addition, respondents are asked to report on how they spend their time, the quality of their experiences in college, and how they feel they have developed as a result of these experiences. Second, the NSSE is the most widely accepted and used student engagement instrument (Pike & Kuh, 2005), and has been administered to more than 1,600 bachelor's granting institutions of higher education in the United States and Canada since 2000 (NSSE, 2018a). Third, the NSSE takes about 15 minutes to complete (NSSE, 2018b).

The NSSE contains 47 core items that are short and based on behaviors for students in college to rate using either a 4-point or 7-point Likert scale (Sauser & Sheehan, 2005). For example, questions asked respondents to select from "Very often" to "Never" on a 4-point Likert scales for questions such as, "*During the current school year, about how often have you worked with other students on course projects or assignment?*" The 7-point scale asked respondents to select from "Very Poor" to "Exceptional" for the statement "*Indicate the quality of your interactions with the following people at your institution.*" The 7-point scale also offered a "Not Applicable" response option. Student demographic data were also collected at the end of the instrument.

The core items are distributed among 10 Engagement Indicators and six High-Impact Practices (see Table 9). The Engagement Indicators provide valuable information about distinct aspects of student engagement (NSSE, 2015). The Engagement Indicators, grouped into four themes as prescribed by the NSSE (2018c), are: *Academic Challenge*, *Learning with Peers*, *Experiences with Faculty*, and *Campus Environment*. The theme, number of Engagement Indicators (EI) and items, Cronbach's α coefficient from the current study, and an example from each theme are:

1. ***Academic Challenge***, 4 EI, 17 items, $\alpha = .91$ (e.g., "During the current school year, how much has your coursework emphasized evaluating a point of view, decision, or information source?");
2. ***Learning with Peers***, 2 EI, 8 items, $\alpha = .84$ (e.g., "During the current school year, how often have you explained course material to one or more students?");
3. ***Experiences with Faculty***, 2 EI, 9 items, $\alpha = .79$ (e.g., "During the current school year, how often have you talked about career plans with a faculty member?"); and,
4. ***Campus Environment***, 2 EI, 13 items, $\alpha = .90$ (e.g., "Indicate the quality of your interactions with the following people at your institution: students.").

Scoring of each Engagement Indicator is expressed on a 60-point scale (NSSE, 2015). Items within each EI are converted to a 60-point scale (e.g., *Never* = 0, *Sometimes* = 20, *Often* = 40, and *Very Often* = 60) then averaged together to compute student-level scores. The average score for the 10 Engagement Indicators, grouped into four themes, was used

as the four dependent variables for the current study. Prior studies by NSSE have confirmed good reliability with internal consistency for the Engagement Indicators, with Cronbach's alpha coefficient values ranging from .76 to .89 (see Table 8). The psychometric properties of the NSSE, including reliability, are acceptable and reported by NSSE (2018g) in a Psychometric Portfolio.

Table 9

NSSE Themes, Engagement Indicators, and Items with Survey Question Number

Theme	Engagement Indicator and Item with Survey Question Number
Academic Challenge	1. Higher-Order Learning Q6: During the current school year, how much has your coursework emphasized the following: ● Applying facts, theories, or methods to practical problems or new situations ● Analyzing an idea, experience, or line of reasoning in depth by examining its parts ● Evaluating a point of view, decision, or information source ● Forming a new idea or understanding from various pieces of information
	2. Reflective & Integrative Learning Q4: During the current school year, how often have you: ● Combined ideas from different courses when completing assignments ● Connected your learning to societal problems or issues ● Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments ● Examined the strengths and weaknesses of your own views on a topic or issue ● Tried to better understand someone else's views by imagining how an issue looks from his or her perspective ● Learned something that changed the way you understand an issue or concept

Table 9

Cont.

Theme	Engagement Indicator and Item with Survey Question Number
Academic Challenge (cont.)	2. Reflective & Integrative Learning (cont.) Q4: During the current school year, how often have you: ● Connected ideas from your courses to your prior experiences and knowledge
	3. Learning Strategies Q10: During the current school year, how often have you: ● Identified key information from reading assignments ● Reviewed your notes after class ● Summarized what you learned in class or from course materials
	4. Quantitative Reasoning Q8: During the current school year, about how often have you: ● Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.) ● Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.) ● Evaluated what others have concluded from numerical information
Learning with Peers	5. Collaborative Learning Q3: During the current school year, how often have you: ● Asked another student to help you understand course material ● Explained course material to one or more students ● Prepared for exams by discussing or working through course material with other students ● Worked with other students on course projects or assignments
	6. Discussions with Diverse Others Q9: During the current school year, how often have you had discussions with people from the following groups: ● People from a race or ethnicity other than your own ● People from an economic background other than your own

Table 9

Cont.

Theme	Engagement Indicator and Item with Survey Question Number
Learning with Peers (cont.)	6. Discussions with Diverse Others (cont.) Q9: During the current school year, how often have you had discussions with people from the following groups: ● People with religious beliefs other than your own ● People with political views other than your own
Experiences with Faculty	7. Student-Faculty Interaction Q5: During the current school year, how often have you: ● Talked about career plans with a faculty member ● Worked with a faculty member on activities other than coursework (committees, student groups, etc.) ● Discussed course topics, ideas, or concepts with a faculty member outside of class ● Discussed your academic performance with a faculty member
	8. Effective Teaching Practices Q7: During the current school year, to what extent have your instructors done the following: ● Clearly explained course goals and requirements ● Taught course sessions in an organized way ● Used examples or illustrations to explain difficult points ● Provided feedback on a draft or work in progress ● Provided prompt and detailed feedback on tests or completed assignments
Campus Environment	9. Quality of Interactions Q12: Indicate the quality of your interactions with the following people at your institution: ● Students ● Academic advisors ● Faculty ● Student services staff (career services, student activities, housing, etc.)

Table 9

Cont.

Theme	Engagement Indicator and Item with Survey Question Number
Campus Environment (cont.)	9. Quality of Interactions (cont.) Q12: Indicate the quality of your interactions with the following people at your institution: ● Other administrative staff and offices (registrar, financial aid, etc.)
	10. Supportive Environment Q13: How much does your institution emphasize the following: ● Providing support to help students succeed academically ● Using learning support services (tutoring services, writing center, etc.) ● Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.) ● Providing opportunities to be involved socially ● Providing support for your overall well-being (recreation, health care, counseling, etc.) ● Helping you manage your non-academic responsibilities (work, family, etc.) ● Attending campus activities and events (performing arts, athletic events, etc.) ● Attending events that address important social, economic, or political issues

Note. Source: NSSE (2015).

In addition to the 10 Engagement Indicators, the NSSE also reports on six High-Impact Practices. These opportunities are designated "high impact" because of their positive association with student learning and retention (NSSE, 2018d). They represent enriching educational experiences that demand considerable time and effort, learning outside the classroom, meaningful interactions with faculty and student peers,

collaborative efforts with diverse others, and frequent, substantive feedback (NSSE, 2015). The High-Impact Practices are:

1. Courses that include a community-based project (service-learning);
2. Learning community or some other formal program where groups of students take two or more classes together;
3. Work with a faculty member on a research project;
4. Internship, co-op, field experience, student teaching, or clinical placement;
5. Study abroad program; and,
6. Culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.).

The NSSE reports participation in learning communities, service-learning, and research with faculty for first-year students and seniors, and reports participation in internships or field experiences, study abroad, and culminating senior experiences only for seniors (Kuh, 2003, 2009a, 2009b). Scoring for each High-Impact Practice, except service-learning, is reported as the percentage of students who responded "Done or in progress" (NSSE, 2015). For service-learning, it is the percentage of students for whom at least "Some" courses included a community-based project. Thus, a High-Impact Practice score of 26 means that 26% of respondents participated in the activity. For the current study, responses to the six High-Impact Practices were collected from all respondents and included those who responded "Done or in progress" and "Plan to do" (as a means to gauge participation and interest in the HIPs). Validity reports are provided

by NSSE (2018g) in a Psychometric Portfolio. Scores for the High-Impact Practices were reported as descriptive statistics for the participants in Chapter IV (see Table 22).

Current Assistance to the Family Subscale

The Current Assistance to the Family subscale (see Table 10), developed by Fuligni et al. (1999), was used to measure the influence of family obligations on the engagement of undergraduate Lumbee commuter students. The subscale assesses views toward family obligations held by individuals from cultures with a collectivistic tradition that emphasizes the interests of the group/community over those of the individual (as reflected in the Indigenous Knowledge Systems of American Indians).

The subscale contains 11 items or activities (see Table 10) that are based on how often the respondents should assist with household tasks and spend time with their family. Respondents rate the items using a 5-point Likert scale (Fuligni et al., 1999). For example, respondents select from "1 (Almost Never)" to "5 (Almost Always)" for items such as, "Spend time with your grandparents, cousins, aunts, and uncles." The scale offered a "Not Applicable" response option. The Cronbach's α coefficient for the subscale from the current study was reported at .87. The prior study by Fuligni et al. reported "good" internal consistency for perceived expectations of family obligations by parents (α = .83) and students (α = .87) and was reliable across the different ethnic groups, with alphas ranging from .79 to .87 (p. 1033). The 11 items were summed and averaged and used in the current study, as recommended by Fuligni et al., as a single dependent variable.

Table 10

Current Assistance to the Family Subscale

Items
1. Spend time with your grandparents, cousins, aunts, and uncles
2. Spend time at home with your family
3. Run errands that the family needs done
4. Help your brothers or sisters with their homework
5. Spend holidays with your family
6. Help out around the house
7. Spend time with your family on weekends
8. Help take care of your brothers and sisters
9. Eat meals with your family
10. Help take care of your grandparents
11. Do things together with your brothers and sisters

Note. Source: Fuligni et al. (1999). For the current study, family can mean any member of the respondent's extended family, including parents, spouse, fiancé, child(ren), etc.

Demographic and Additional Items

The researcher amended the NSSE (2018f) by excluding experimental (NSSE, 2019) and demographic items that collected data not pertinent to the current study. Other demographic items were added to address the needs of the study (see Appendix A).

The following amendments and additions were made to the current study's survey (see Appendix A). Question 2a, from the NSSE (2018f), was amended to reflect on- and off-campus housing options at UNC Pembroke. Question 2b, from Oxendine (2015), captures with whom off-campus students reside. For question 12, from the NSSE, descriptors were added to each anchor. Question 15, the Current Assistance to Family subscale (Fuligni et al., 1999), was amended to include a definition of family that includes parents, spouse, fiancé, child(ren), etc. while a descriptor was added to each anchor. Question 16 was added to collect data about membership in a student

organization. Question 19 was amended to define full- and part-time status. For question 20, from the NSSE, numerical categories were used for GPA instead of letter grades. Question 22, from the NSSE, was amended to collect respondent age (by category) instead of year of birth.

Data Analysis

Multiple statistical analyses were used to answer the research questions in the current study. IBM SPSS version 25.0 (IBM Corp., 2018) statistical software package was used to analyze the data. Descriptive statistics were reported to explore the characteristics of the participants in this sample. Throughout the current study, as is the standard in social science research, the *p*-value for each analysis was set at 0.05 (Howell, 2012; Rencher & Christensen, 2012).

To test the null hypothesis for Research Question 1, a one-way multivariate analysis of variance (MANOVA) was used to determine if there was a difference in engagement by gender among undergraduate Lumbee commuter students at UNC Pembroke. A one-way MANOVA is used to determine if there are any differences between independent groups on more than one continuous dependent variable (Rea & Parker, 1997). A one-way MANOVA was also used to test if there was a difference in the engagement of undergraduate Lumbee commuter students at UNC Pembroke by academic classification (Research Question 2), GPA (Research Question 3), and membership in a student organization (Research Question 4).

Last, the researcher used a multivariate regression with one predictor to determine if family obligations was a predictor of engagement for undergraduate Lumbee commuter

students at UNC Pembroke (Research Question 5). A multivariate regression is used to predict more than one dependent variable from one independent variable and how the variables relate to each other (Rea & Parker, 1997). The findings for this study are presented in Chapter IV.

CHAPTER IV

RESULTS

The findings of the current study, which examined the engagement of undergraduate Lumbee commuter students at the University of North Carolina at Pembroke (UNC Pembroke), are reported in this chapter. Preliminary analyses, which provide an overview of the data collected, are presented first, followed by the results of the analyses for each of the five research questions.

Preliminary Analyses

Data Screening

Responses to the survey were screened to ensure the accuracy of data entry and missing data.

Accuracy of data entry. The information from respondents was collected through an online survey hosted on Qualtrics—the University of North Carolina at Greensboro's online assessment platform (n = 144). The data were exported from Qualtrics into Microsoft Excel for inspection and cleaning. The data were then imported into the statistical software package IBM SPSS version 25.0 (IBM Corp., 2018) and inspected for errors that may have occurred during the process.

Missing data. A total of 220 respondents consented to participate in the study. Eighteen respondents did not meet the requirements to participate in the study, after either responding they did not identify as Lumbee (5), lived on campus (9), or were not

currently enrolled at UNC Pembroke (4). A thorough review of the raw data indicated that missing data were the result of incomplete surveys. An additional 55 respondents did not complete more than 75% of the survey, including the Engagement Indicators and demographic questions; they were removed from the study by the researcher. This left a total of 147 completed surveys.

Responses of "Not Applicable," to questions 12 and 15 of the survey, were not included in the data analyses because the items did not pertain to the participants (see Appendix A). Seven survey items from the two questions had three or less "Not Applicable" responses while five items had 10 or more. The question number, the order of the item in the question, the number of "Not Applicable" responses, and a description of the items with 10 or more "Not Applicable" responses are:

- 12(d), 10, student services staff;
- 15(d), 43, help brothers and sisters with homework;
- 15(f), 42, help take care of brothers and sisters;
- 15(j), 35, help take care of grandparents; and,
- 15(k), 16, do things together with brothers and sisters.

A large number of responses may be attributed to participants not having siblings or grandparents or not engaging in those activities with siblings or grandparents.

Tests of Assumptions

The null hypotheses for Research Questions 1-4 were tested with a one-way multivariate analysis of variance (MANOVA). The null hypothesis for Research Question 5 with tested with a multivariate regression with one predictor. Before

proceeding with the analyses, the responses from the survey were screened to ensure no violations of assumptions.

Research questions 1-4. Data from the survey were tested to determine if they conformed to the following condition and assumptions for a MANOVA: sample size (condition); normality; outliers; linearity; multicollinearity and singularity; and, homogeneity of variance-covariance matrices.

Sample size. For MANOVA, a necessary condition is more cases in each cell than the dependent variables in the study. Four of the five independent variables had more than the required number of cases, with the exception of grade point average (GPA). The GPA category of 1.99 or lower had three cases—less than the current study's four dependent variables. To meet the assumption of sample size, the six categories of GPA were collapsed to create three categories: high performing (4.0 to 3.5 and 3.49 to 3.0); mid-range (2.99 to 2.5); and, low performing (2.49 to 2.0 and 1.99 and lower). The category of "Not sure/Don't Know" was treated as missing data; the six responses were not included in the data analyses.

Univariate and multivariate normality. Histograms, Q-Q plots, and the skew index (SI) and kurtosis index (KI) were utilized to determine if there was a violation of the assumption of univariate and multivariate normality (Kline, 2011). Normality of data was examined visually using histograms and Q-Q plots (Howell, 2012). Figures 3, 5, 7, and 9 illustrate the histograms for the four dependent variables (academic challenge, learning with peers, experiences with faculty, and campus environment), and Figures 4, 6, 8, and 10 show the Q-Q plots ran on the same data. The data presented in the

histograms of Figures 3, 5, and 7 are symmetrical with a mesokurtic curve, indicative of normal kurtosis. Figure 9 is slightly negatively skewed with a mesokurtic curve. The SI and KI were calculated (see Table 11). Skewness is a measure of the degree of asymmetry of the distribution of scores of a variable about its mean (Howell, 2012). Skewness ranged between -.40 and .06, indicating the distribution is approximately symmetric. Kurtosis is the relative concentration of scores in the center, tails, and shoulders of a distribution (Howell, 2012). Kurtosis ranged from -.81 to .62. As a rule of thumb, skewness and kurtosis between -2 and +2 are acceptable (George & Mallery, 2010). While Figures 4, 6, 8, and 10 show data clustered around a normally distributed line (illustrating a relatively normal distribution), the Shapiro-Wilk test (see Table 12) suggested a violation of the assumption of univariate normality for campus environment. However, MANOVAs are robust to normality, so the assumption of normality can be violated without serious error being introduced to the test (Agresti & Finlay, 2009). Due to the violation, Pillai's Trace was used for the overall analysis.

Mahalanobis distance statistics were also calculated, with the maximum Mahalanobis distance being 13.214. Using a chi-square table, with the number of dependent variables as the degrees of freedom (*df*) value, the critical value was determined to be 18.47. Since the maximum Mahalanobis distance did not exceed the critical value, multivariate normality was not violated (Tabachnick & Fidell, 2013).

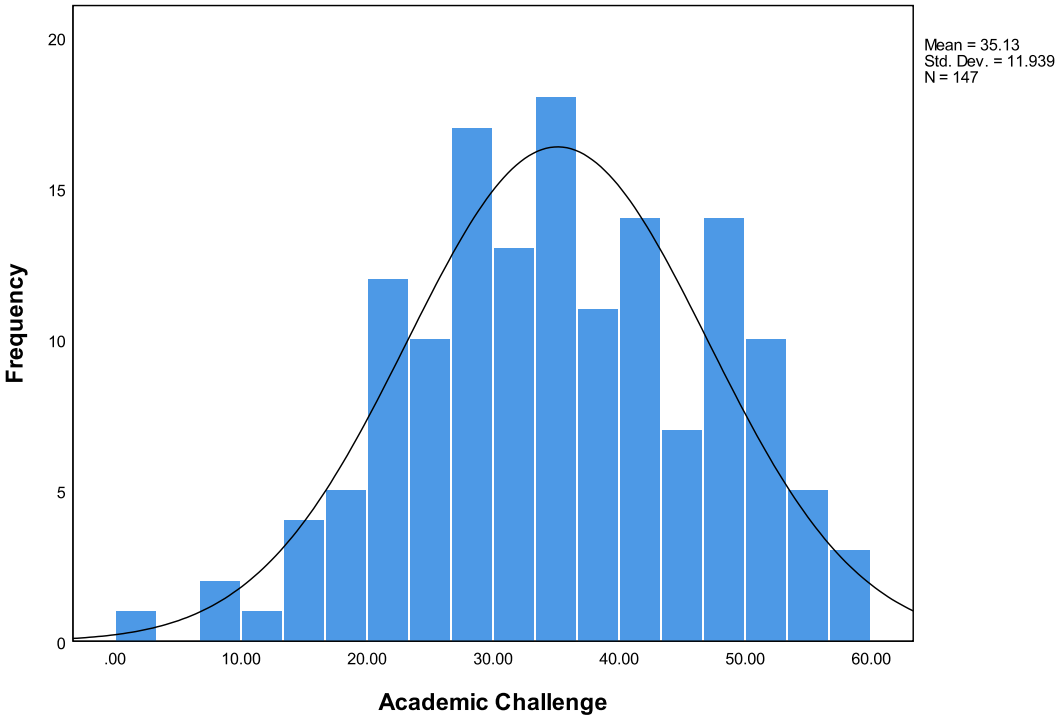

Figure 3. Histogram of Academic Challenge.

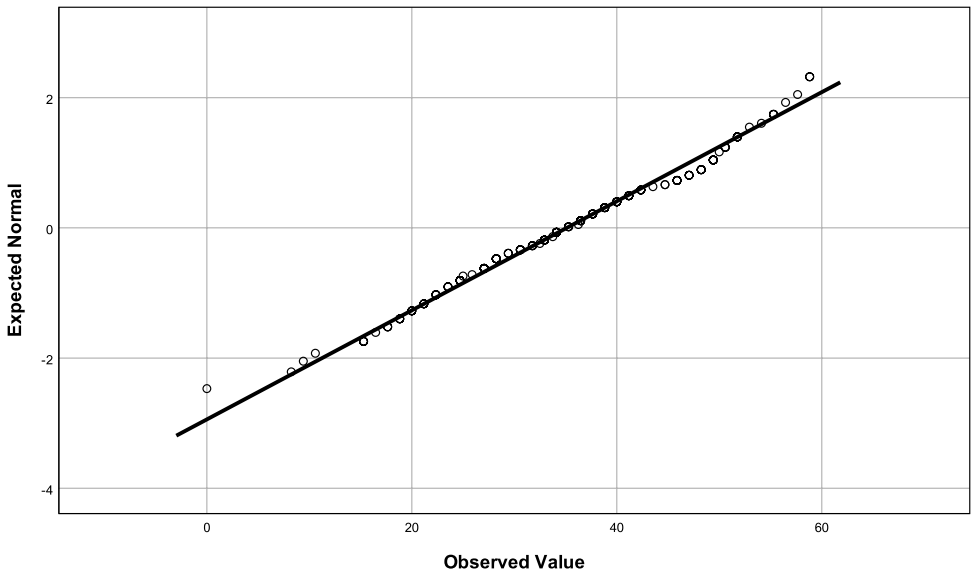

Figure 4. Normal Q-Q Plot of Academic Challenge.

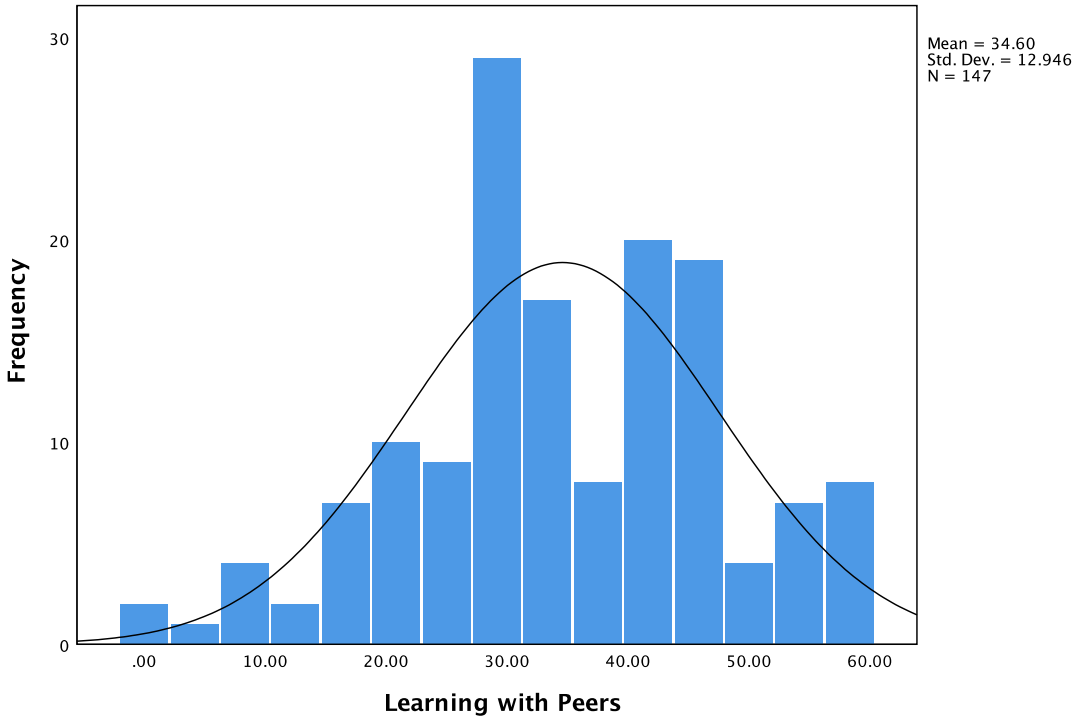

Figure 5. Histogram of Learning with Peers.

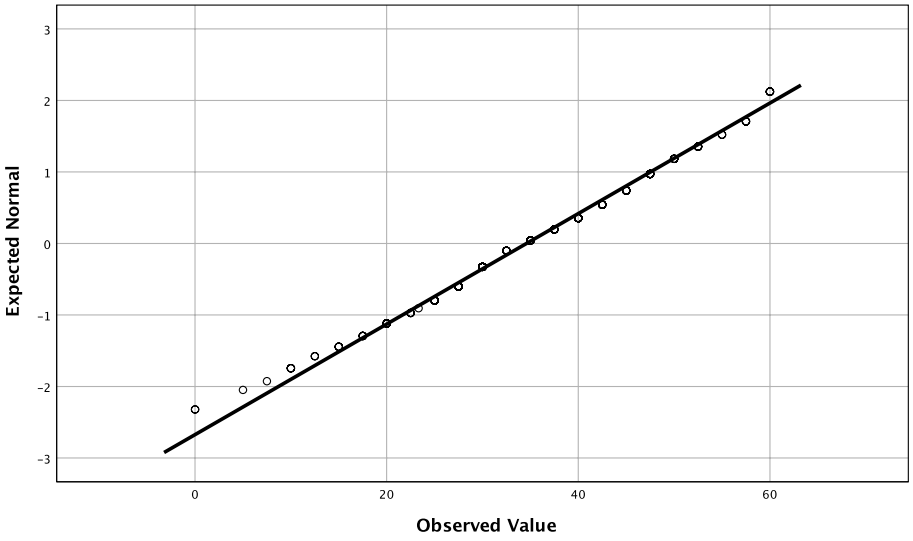

Figure 6. Normal Q-Q Plot of Learning with Peers.

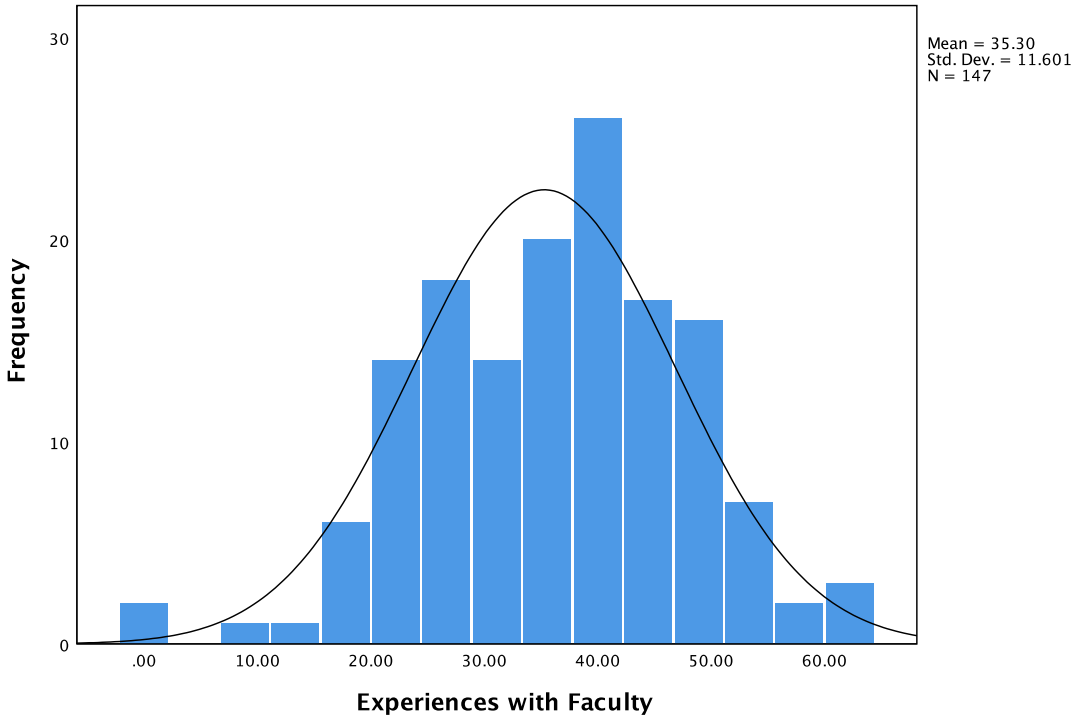

Figure 7. Histogram of Experiences with Faculty.

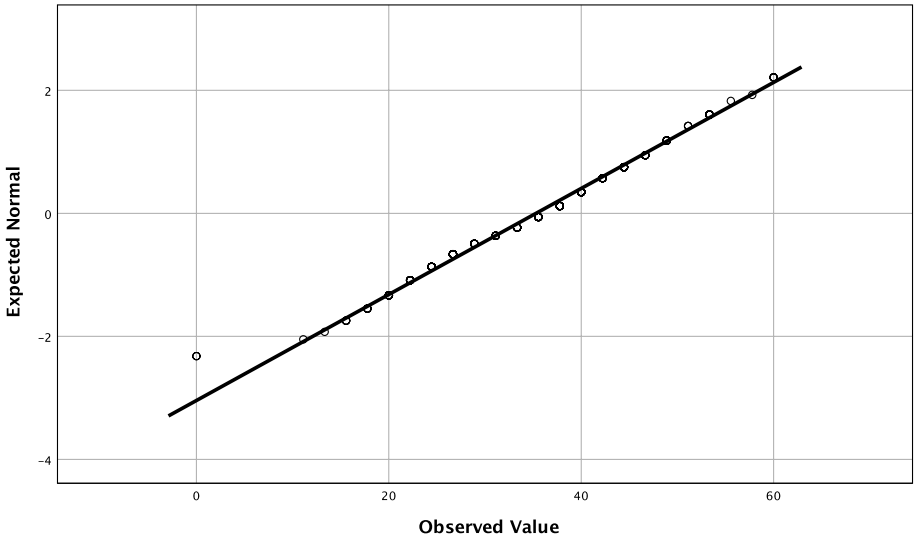

Figure 8. Normal Q-Q Plot of Experiences with Faculty.

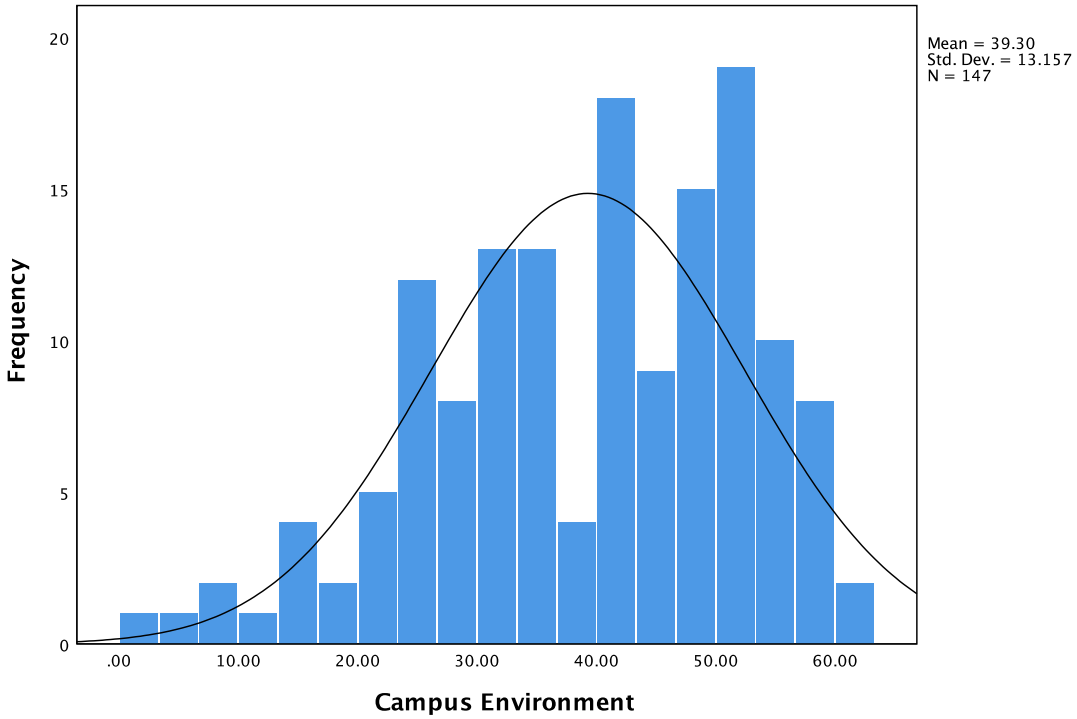

Figure 9. Histogram of Campus Environment.

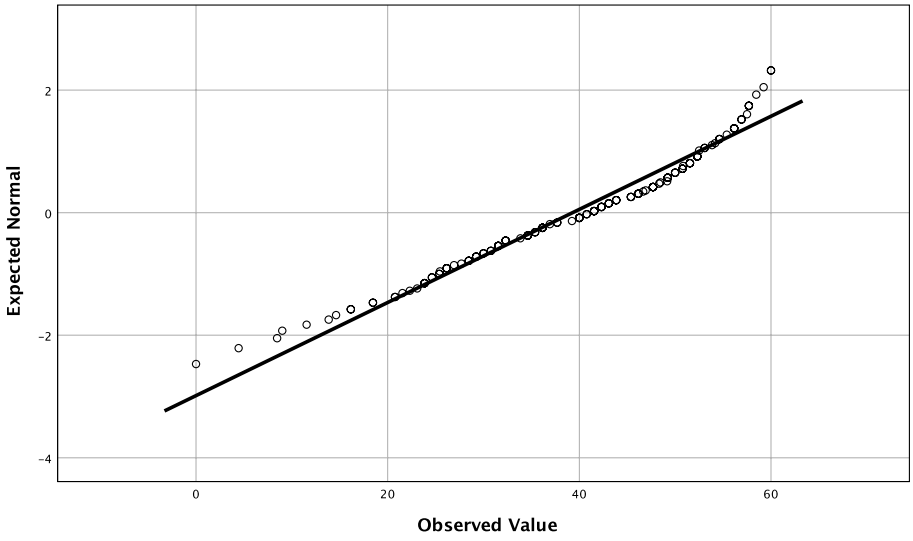

Figure 10. Normal Q-Q Plot of Campus Environment.

Table 11

Skewness and Kurtosis of Data for the Dependent Variables

Dependent Variable	Skewness	Kurtosis
Academic Challenge	.06	-.81
Learning with Peers	-.04	-.45
Experiences with Faculty	-.01	.62
Campus Environment	-.40	-.71

Table 12

Shapiro-Wilk Test for Normality for the Dependent Variables

Dependent Variable	Statistic	df	Sig.
Academic Challenge	.986	147	.16
Learning with Peers	.986	147	.15
Experiences with Faculty	.985	147	.11
Campus Environment	.962	147	.00

Univariate and multivariate outliers. Box plots and Mahalanobis distance statistics were used to determine if there was a violation of the assumption of univariate and multivariate outliers (Kline, 2011). Figures 11-14 illustrate the box plot on the dependent variables and provide a visual representation of the cases that are potential outliers. A review of the box plots revealed three univariate outliers (see Figures 11-13). These cases were removed from the data set and excluded from further analyses, resulting

in a study sample of 144 cases. Mahalanobis distance statistics were calculated; no multivariate outliers were found (Tabachnick & Fidell, 2013).

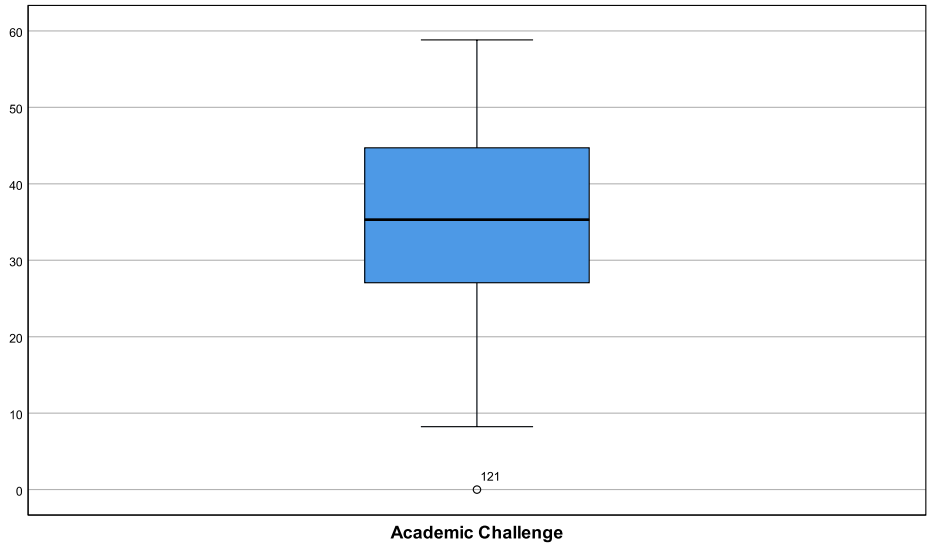

Figure 11. Box Plot of Academic Challenge.

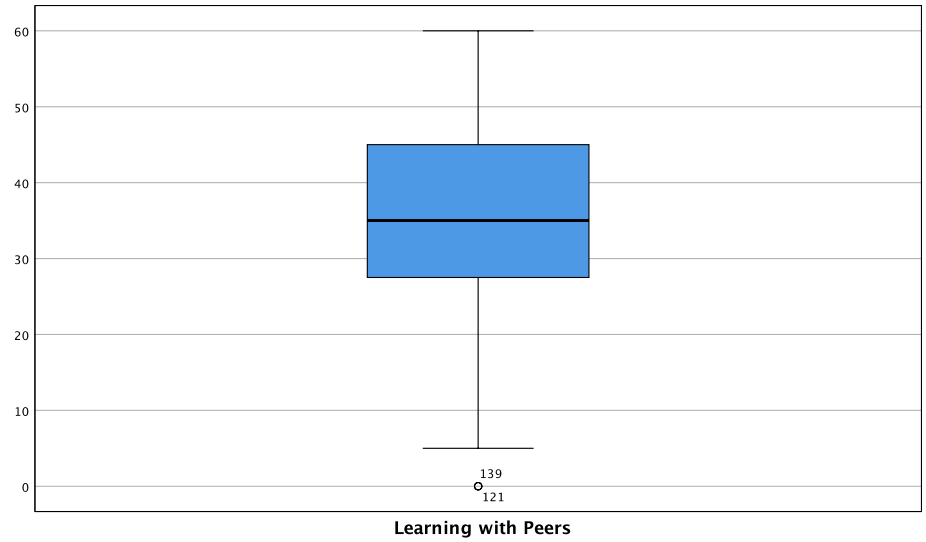

Figure 12. Box Plot of Learning with Peers.

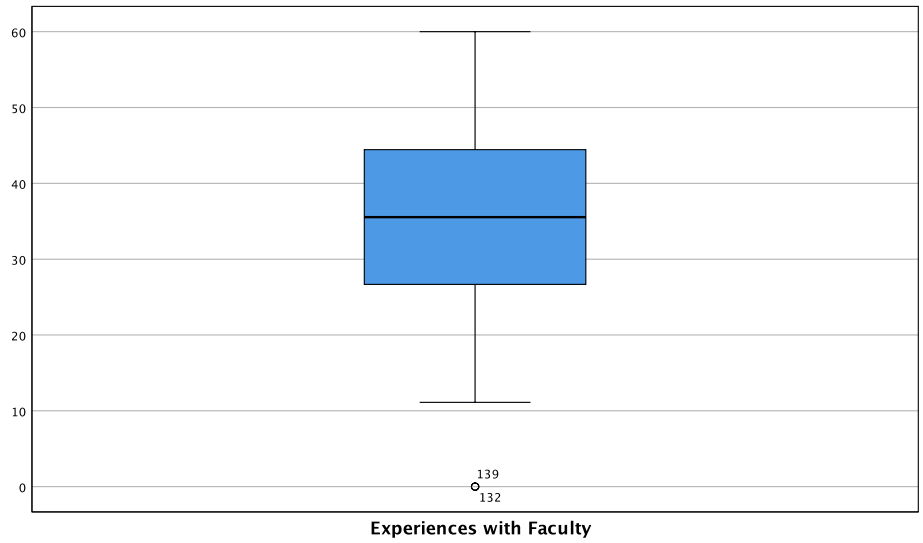

Figure 13. Box Plot of Experiences with Faculty.

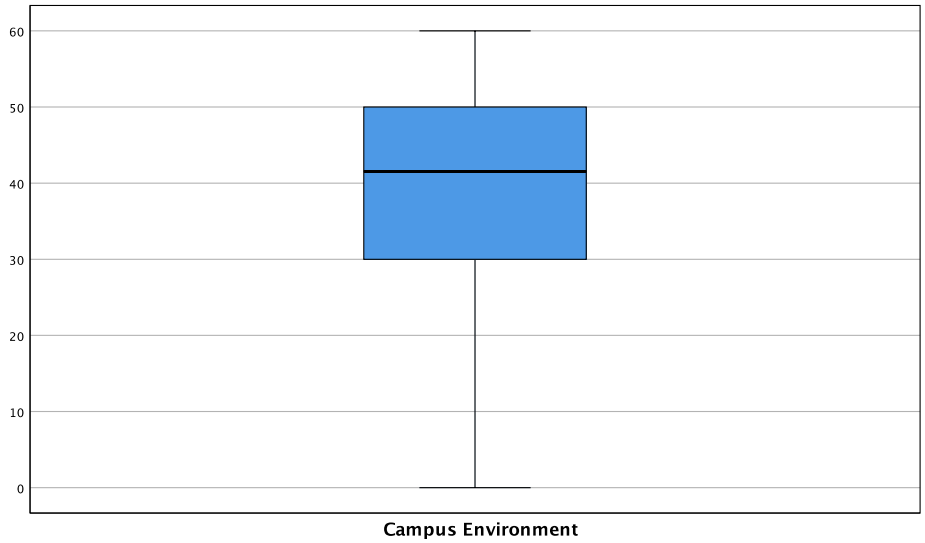

Figure 14. Box Plot of Campus Environment.

Linearity. Scatterplots of the four dependent variables were reviewed to examine the relationship between linearity. There is an indication of some degree of positive linear relationship between the dependent variables. More importantly, the plots (see Figure 15)

do not show any obvious evidence of non-linearity; therefore, the assumption of linearity is satisfied (see also Table 13).

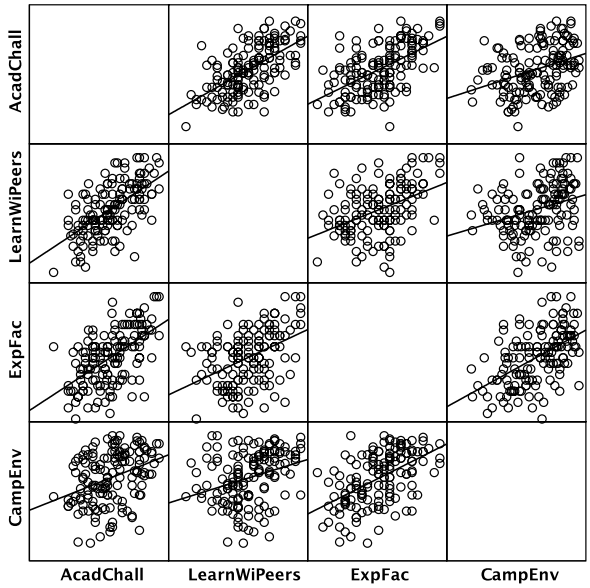

Figure 15. Scatterplot Matrix of Dependent Variables.

Multicollinearity and singularity. MANOVA works best when the dependent variables are moderately correlated, not highly correlated. To check for multicollinearity, a Pearson correlation was run to check the strength of the correlations among the dependent variables. Cohen (1988) defines the strength of correlations as: small (r = .10 to .29); medium (r = .30 to .49); and, large (r = .50 to 1.0). Multicollinearity occurs when the dependent variables are highly correlated (r = .9 and above), which was not the case in the current study. There is a mix of positive medium and large correlations among the variables (see Table 13), which is not unexpected given the variables are all measures of different facets of engagement. Thus, the assumption of the absence of multicollinearity had been met.

Table 13

Pearson Product-moment Correlations between the Dependent Variables

Dependent Variables	1	2	3	4
Academic Challenge	1			
Learning with Peers	.61**	1		
Experiences with Faculty	.57**	.43**	1	
Campus Environment	.36**	.31**	.53**	1

Note. ** $p < .001$ (2-tailed)

Homogeneity of variance-covariance matrices. The Box's Test of Equality of Covariance Matrices was used to test the homogeneity of variance-covariance matrices (Tabachnick & Fidell, 2013). No violation of this assumption was found in the dependent variables (see Table 14).

Table 14

Homogeneity of Variance-covariance Matrices Between the Dependent Variables

Research Questions	Independent Variables	Sig.
One	Gender	.921
Two	Academic Classification	.974
Three	Grade Point Average	.700
Four	Membership in a Student Organization	.054

Note. ** $p < .001$

Research question 5. Data from the survey were screened to ensure no violations of the following assumptions for a multivariate regression with one predictor: linearity;

normality; homoscedasticity, and absence of multicollinearity. The univariate and multivariate normality, linearity, and the absence of multicollinearity for the dependent variables were discussed in detail earlier in this section on the Tests of Assumptions. Lack of normality for campus environment was the only violation of the test of assumptions for univariate and multivariate normality (see Table 12). There was no obvious evidence of non-linearity for the dependent variables; therefore, the assumption of linearity is satisfied (see Figure 15). The assumption of absence of multicollinearity was met as correlations between the dependent variables ranged from .31 to .61 (see Table 13).

Homoscedasticity. The final assumption of the multivariate regression was a test for homoscedasticity. According to Voght and Johnson (2011), homoscedasticity is when the error term has a constant variance across all levels of the independent variable. Scatterplots of the residuals (see Figures 16-19) revealed no pattern in any of the plots, which is a sign that homoscedasticity has been met (Ho, 2013).

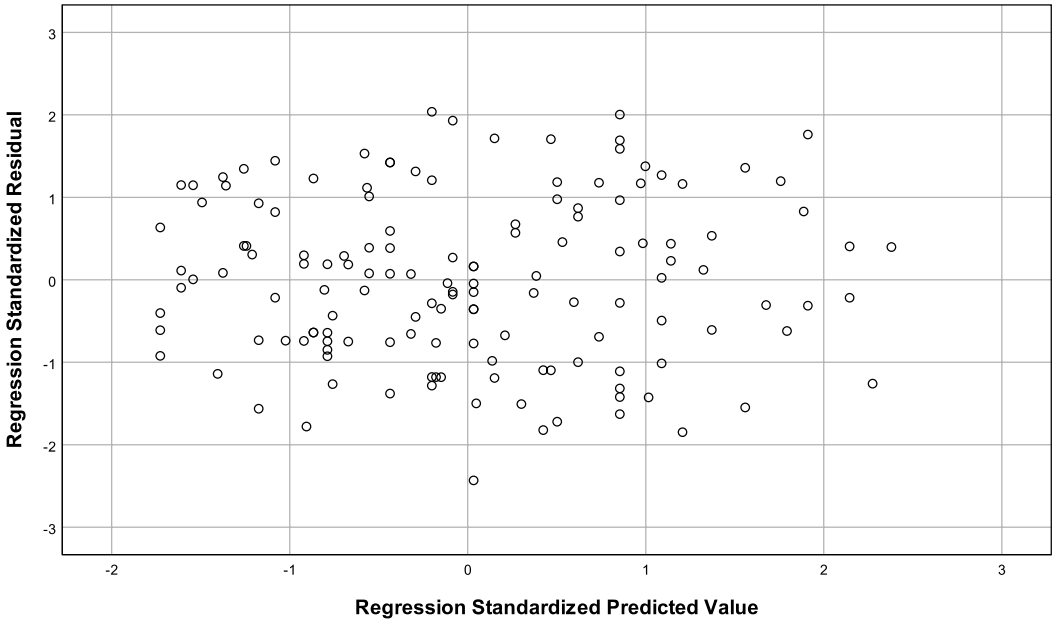

Figure 16. Scatterplot for Academic Challenge.

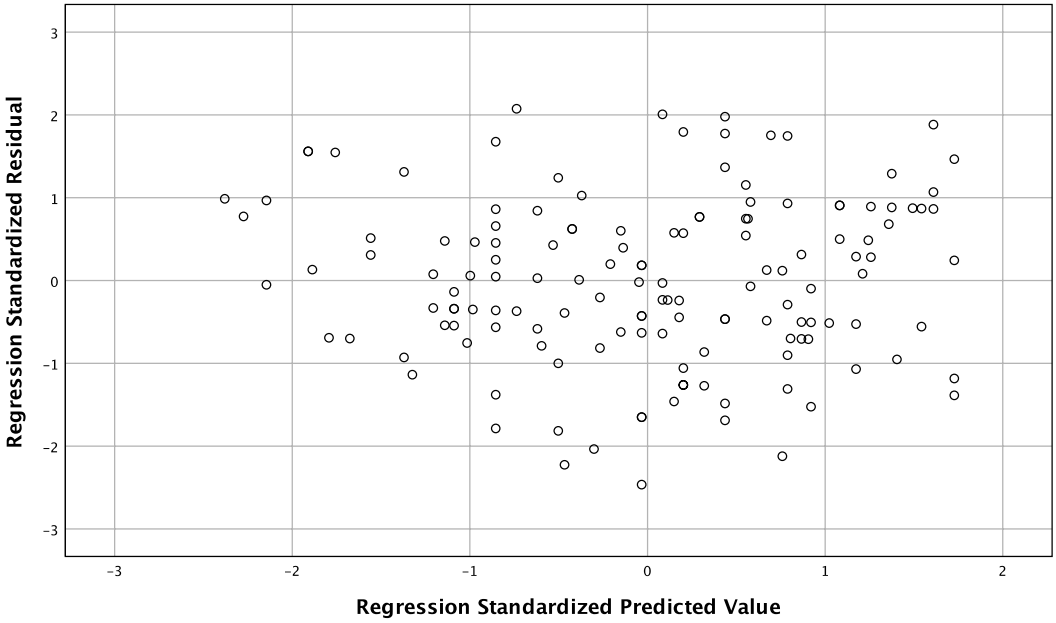

Figure 17. Scatterplot for Learning with Peers.

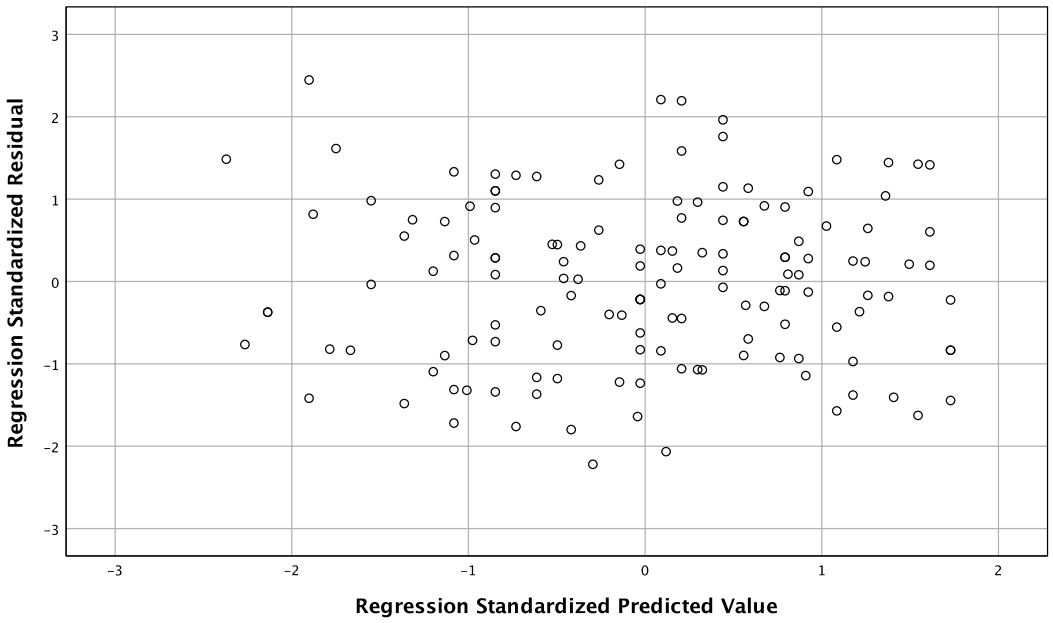

Figure 18. Scatterplot for Experiences with Faculty.

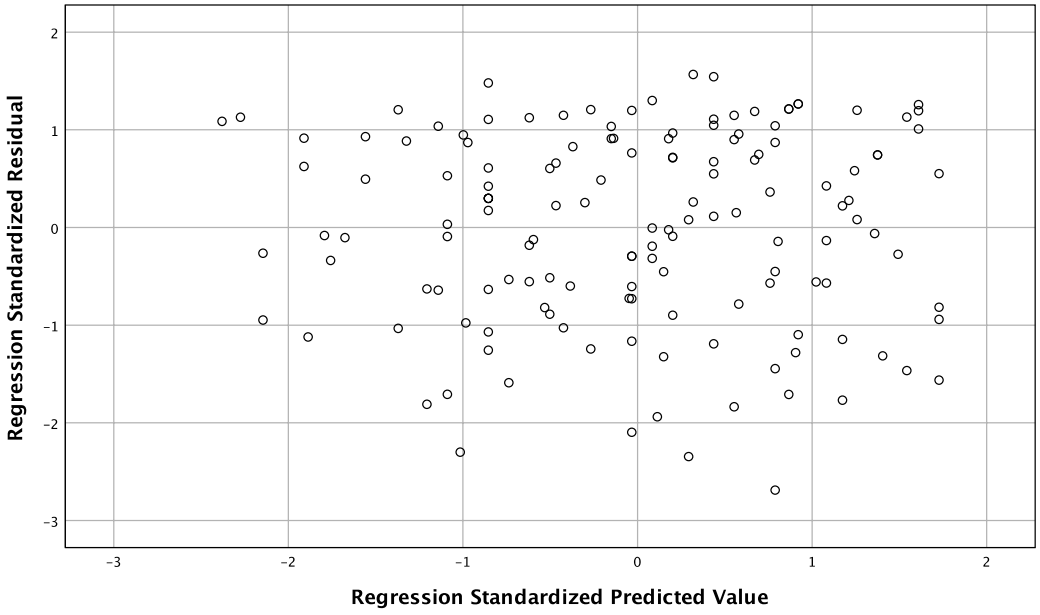

Figure 19. Scatterplot for Campus Environment.

Descriptive Statistics

Demographic data were gathered from 144 participants. Means and standard deviations were also calculated for the dependent variables, High-Impact Practices, and the Current Assistance to the Family subscale (Fuligni, Tseng, & Lam, 1999).

Table 15

Participant Gender by Frequency and Percentage (*n* = 144)

Gender	*n*	%
Male	31	21.5
Female	113	78.5
Total	144	100.0

Table 16

Participant Age (in Years) by Frequency and Percentage (*n* = 144)

Age Range (In Years)	*n*	%
18-24	95	66.0
25-29	7	4.9
30-34	9	6.3
35-39	8	5.6
40-44	11	7.6
45-49	11	7.6
50 and older	3	2.1
Total	144	100.0

Table 17

Participant Enrollment Status by Frequency and Percentage (*n* = 144)

Enrollment Status	*n*	%
Full-time	114	79.2
Part-time	30	20.8
Total	144	100.0

Table 18

Participant Academic Classification by Frequency and Percentage (*n* = 144)

Academic Classification	*n*	%
Freshman/first-year	14	9.7
Sophomore	27	18.8
Junior	33	22.9
Senior	60	41.7
Unclassified	10	6.9
Total	144	100.0

Table 19

Participant Self-reported Grade Point Average by Frequency and Percentage (*n* = 144)

Grade Point Average	*n*	%
4.0 to 3.5	37	25.7
3.49 to 3.0	52	36.1
2.99 to 2.5	35	24.3
2.49 to 2.0	13	9.0
1.99 or lower	3	2.1
Not sure/Don't know	4	2.8
Total	144	100.0

Table 20

Participant Membership in a Student Organization by Frequency and Percentage (*n* = 144)

Membership in a Student Organization	*n*	%
I am currently or have been a member of American Indian AND non-American Indian student organizations.	33	22.9
I am currently or have been a member of only American Indian student organizations.	17	11.8
I am currently or have been a member of only non-American Indian student organizations.	13	9.0
I am not nor have I been a member of a student organization.	81	56.3
Total	144	100.0

Table 21

Descriptive Statistics for Dependent Variables

Dependent Variables (NSSE Themes)	Engagement Indicators (47 items)	*M*	*SD*	*n*
Academic Challenge		35.72	11.30	144
	Higher-Order Learning (4 items)	36.39	17.02	144
	Reflective & Integrative Learning (7 items)	36.15	13.45	144
	Learning Strategies (3 items)	43.15	13.33	144
	Quantitative Reasoning (3 items)	26.53	15.52	144
Learning with Peers		35.25	12.24	144
	Collaborative Learning (4 items)	29.20	13.85	144
	Discussions with Diverse Others (4 items)	41.28	15.23	144
Experiences with Faculty		35.80	10.92	143
	Student-Faculty Interaction (4 items)	26.28	15.23	144
	Effective Teaching Practices (5 items)	43.50	13.85	144
Campus Environment		39.80	12.54	144
	Quality of Interactions (5 items)	35.51	12.81	144
	Supportive Environment (8 items)	42.43	15.20	144

Table 22

Participant High-Impact Practices by Frequency and Percentage

High-Impact Practices	*n*	%
Participate in an internship, co-op, field experience, student teaching, or clinical placement	99	68.7
Hold a formal leadership role in a student organization or group	55	38.2
Participate in a learning community or some other formal program where groups of students take two or more classes together	61	42.3
Participant in study abroad program	29	20.2
Work with a faculty member on a research project	47	32.7
Complete a culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.)	71	49.3
Total	362	-- [a]

Note. The table reports respondents who selected "Done or in progress" and "Plan to do."
[a] The total percentage will not sum to 100% since respondents may report participating in more than one High-Impact Practice.

Table 23

Descriptive Statistics for Current Assistance to the Family Subscale

Subscale	*M*	*SD*	*n*
Current Assistance to the Family (11 items)	3.66	0.77	143

Research Questions

Research Question 1: Is there a difference in student engagement by gender among undergraduate Lumbee commuter students at UNC Pembroke?

A one-way MANOVA was performed to assess if there was a difference in student engagement by gender among undergraduate Lumbee commuter students at UNC Pembroke. Four dependent variables (academic challenge, learning with peers, experiences with faculty, and campus environment) were used to measure student engagement. The independent variable was gender. Preliminary assumption testing, mentioned earlier in this chapter, was conducted to check for normality, linearity, univariate and multivariate outliers, multicollinearity, and homogeneity of variance-covariance matrices (p = .921), with only a violation of univariate normality for the campus environment dependent variable noted. Levene's Test of Equality of Error Variances, which tests for violations of the assumption of equality of variance for the gender factor, was not statistically significant.

There was not a statistically significant difference in student engagement between male and female undergraduate Lumbee commuter students on the combined dependent variables, $F(4, 138) = .161$, $p = .957$; Pillai's Trace = .005; multivariate Partial Eta Squared (η^2) = .005 (see Table 24). Partial Eta Squared, the proportion of total variation attributable to the factor while excluding other factors from the total non-error variation, was 0.5%. This is quite a small effect (Cohen, 1988). Since significance was not found, individual analysis of variance (ANOVA) results were not examined. A casual non-statistical inspection of the mean scores indicated similar levels of student engagement for male and female students (see Table 25).

Table 24

MANOVA Results for Student Engagement by Gender (*n* = 143)

Dependent Variable		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Gender	Pillai's Trace	.005	.161	4.000	138.000	.957	.005

Table 25

Descriptive Statistics for Dependent Variables Based on Gender (*n* = 143)

Dependent Variable	Gender	*M*	*SD*	*n*
Academic Challenge	Male	36.41	11.89	31
	Female	35.50	11.23	112
	Total	35.70	11.34	143
Learning with Peers	Male	35.89	13.40	31
	Female	34.87	11.82	112
	Total	35.09	12.13	143
Experiences with Faculty	Male	37.13	9.24	31
	Female	35.44	11.38	112
	Total	35.80	10.94	143
Campus Environment	Male	40.12	12.86	31
	Female	39.61	12.52	112
	Total	39.72	12.55	143

Research Question 2: Is there a difference in student engagement by academic classification among undergraduate Lumbee commuter students at UNC Pembroke?

A one-way MANOVA was performed to assess if there was a difference in student engagement by academic classification among undergraduate Lumbee commuter students at UNC Pembroke. Four dependent variables (academic challenge, learning with peers, experiences with faculty, and campus environment) were used to measure student engagement. The independent variable was academic classification. Preliminary assumption testing, mentioned earlier in this chapter, was conducted to check for normality, linearity, univariate and multivariate outliers, multicollinearity, and homogeneity of variance-covariance matrices (p = .974), with only a violation of univariate normality for the campus environment dependent variable noted. Levene's Test of Equality of Error Variances, which tests for violations of the assumption of equality of variance for the academic classification factor, was not statistically significant.

There was not a statistically significant difference in student engagement between freshman/first-year, sophomore, junior, senior, and unclassified undergraduate Lumbee commuter students on the combined dependent variables, $F(16, 552.000) = .870$, p = .605; Pillai's Trace = .098; multivariate Partial Eta Squared (η^2) = .025 (see Table 26). Partial Eta Squared, the proportion of total variation attributable to the factor while excluding other factors from the total non-error variation, was 2.5%. This is quite a small effect (Cohen, 1988). Since significance was not found, individual ANOVA results were not examined. A casual non-statistical inspection of the mean scores indicated

undergraduate Lumbee commuter students, based on their academic classification, reported similar scores (see Table 27).

Table 26

MANOVA Results for Student Engagement by Academic Classification (*n* = 143)

Dependent Variable		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Academic Classification	Pillai's Trace	.098	.870	16.000	552.000	.605	.025

Table 27

Descriptive Statistics for Dependent Variables Based on Academic Classification (*n* = 143)

Dependent Variable	Academic Classification	*M*	*SD*	*n*
Academic Challenge	Freshman/First-year	35.86	12.05	14
	Sophomore	35.65	10.97	27
	Junior	34.20	11.82	32
	Senior	36.35	11.19	60
	Unclassified	36.47	12.54	10
	Total	35.70	11.34	143
Learning with Peers	Freshman/First-year	31.79	16.51	14
	Sophomore	36.39	10.17	27
	Junior	34.30	12.30	32
	Senior	35.33	12.13	60

Table 27

Cont.

Dependent Variable	Academic Classification	*M*	*SD*	*n*
	Unclassified	37.33	10.71	10
	Total	35.09	12.13	143
Experiences with Faculty	Freshman/First-year	37.78	8.76	14
	Sophomore	36.21	9.93	27
	Junior	36.46	11.81	32
	Senior	35.26	11.48	60
	Unclassified	33.11	11.40	10
	Total	35.80	10.94	143
Campus Environment	Freshman/First-year	46.59	14.39	14
	Sophomore	37.04	13.15	27
	Junior	40.39	12.20	32
	Senior	39.23	12.30	60
	Unclassified	38.15	8.95	10
	Total	39.72	12.55	143

Research Question 3: Is there a difference in student engagement by grade point average among undergraduate Lumbee commuter students at UNC Pembroke?

A one-way MANOVA was performed to assess if there was a difference in student engagement by self-reported GPA among undergraduate Lumbee commuter students at UNC Pembroke. Four dependent variables (academic challenge, learning with

peers, experiences with faculty, and campus environment) were used to measure student engagement. The independent variable was GPA. Preliminary assumption testing, mentioned earlier in this chapter, was conducted to check for normality, linearity, univariate and multivariate outliers, multicollinearity, and homogeneity of variance-covariance matrices (p = .700), with only a violation of univariate normality for the campus environment dependent variable noted. Levene's Test of Equality of Error Variances, which tests for violations of the assumption of equality of variance for the GPA factor, was not statistically significant.

There was not a statistically significant difference in student engagement between high performing, mid-range, and low performing undergraduate Lumbee commuter students on the combined dependent variables, $F(8, 268) = .904$, $p = .513$; Pillai's Trace = .053; multivariate Partial Eta Squared (η^2) = .026 (see Table 28). Partial Eta Squared, the proportion of total variation attributable to the factor while excluding other factors from the total non-error variation, was 2.6%. This is quite a small effect (Cohen, 1988). Since significance was not found, individual ANOVA results were not examined. A casual non-statistical inspection of the mean scores indicated high performing students reported slightly higher scores on academic challenge and experiences with faculty while mid-range students reported slightly higher scores on learning with peers (see Table 29). High performing and mid-range students reported similar scores for campus environment.

Table 28

MANOVA Results for Student Engagement by Grade Point Average (*n* = 143)

Dependent Variable		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Grade Point Average (Collapsed)	Pillai's Trace	.053	.904	8.000	268.000	.513	.026

Table 29

Descriptive Statistics for Dependent Variables Based on Self-Reported Grade Point Average (*n* = 139)

Dependent Variable	GPA	*M*	*SD*	*n*
Academic Challenge	High Performing	36.63	11.06	88
	Mid-range	34.06	13.25	35
	Low Performing	34.80	8.75	16
	Total	35.78	11.40	139
Learning with Peers	High Performing	35.03	12.21	88
	Mid-range	36.17	12.78	35
	Low Performing	33.28	10.48	16
	Total	35.11	12.12	139
Experiences with Faculty	High Performing	36.41	11.23	88
	Mid-range	35.87	11.69	35
	Low Performing	32.64	8.06	16
	Total	35.84	11.03	139

Table 29

Cont.

Dependent Variable	GPA	*M*	*SD*	*n*
Campus Environment	High Performing	40.06	12.76	88
	Mid-range	40.68	12.45	35
	Low Performing	34.42	11.36	16
	Total	39.57	12.59	139

Research Question 4: Is there a difference in student engagement by membership in a student organization among undergraduate Lumbee commuter students at UNC Pembroke?

A one-way MANOVA was performed to assess if there was a difference in student engagement by membership in a student organization among undergraduate Lumbee commuter students at UNC Pembroke. Four dependent variables (academic challenge, learning with peers, experiences with faculty, and campus environment) were used to measure student engagement. The independent variable was membership in a student organization. Preliminary assumption testing, mentioned earlier in this chapter, was conducted to check for normality, linearity, univariate and multivariate outliers, multicollinearity, and homogeneity of variance-covariance matrices ($p = .054$), with only a violation of univariate normality for the campus environment dependent variable noted. Levene's Test of Equality of Error Variances, which tests for violations of the assumption of equality of variance for the membership in a student organization factor, was only

statistically significant for campus environment (p = .04). The violation does not necessarily mean the results are not valid, but, rather, the researcher needs to be cautious about inferences drawn from the statistical results. As a follow up to Levene's Test, an ANOVA was conducted to check the test of homogeneity of variances for campus environment as measured by membership in a student organization. While the ANOVA Levene's Test was significant (p = .038), the Robust Tests of Equality and Means for Welch (p = .564) and Brown-Forsythe (p = .522) were not significant. Welch and Brown-Forsythe test whether the means across all levels of the variable are equal when Levene's Test is violated; they indicate there is no statistically significant difference among the types of membership based on campus environment ratings.

There was not a statistically significant difference in student engagement between undergraduate Lumbee commuter students who were or had been (a) members of American Indian and non-American Indian student organizations, (b) members of only American Indian student organizations, (c) members of only non-American Indian student organizations, and (d) not members of a student organization, $F(12, 414) = 1.589$, p = .092; Pillai's Trace = .132; multivariate Partial Eta Squared (η^2) = .044 (see Table 30). Partial Eta Squared, the proportion of total variation attributable to the factor while excluding other factors from the total non-error variation, was 4.4%. This is quite a small effect (Cohen, 1988). Since significance was not found, individual ANOVA results were not examined. A casual non-statistical inspection of the mean scores indicated undergraduate Lumbee commuter students who were or had been members in only non-American Indian student organizations reported higher levels of student engagement in

academic challenge, learning with peers, and experiences with faculty (see Table 31). Undergraduate Lumbee commuter students who were or had been members of American Indian and non-American Indian student organizations or only American Indian student organizations had slightly higher mean scores for campus environment.

Table 30

MANOVA Results for Student Engagement by Membership in a Student Organization (*n* = 143)

Dependent Variable		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Membership in a Student Organization	Pillai's Trace	.132	1.589	12.000	414.000	.092	.044

Table 31

Descriptive Statistics for Dependent Variables Based on Type of Membership in a Student Organization (*n* = 143)

Dependent Variable	Student Organization Membership Type	*M*	*SD*	*n*
Academic Challenge	American Indian and non-American Indian	38.71	11.61	33
	American Indian Only	36.40	9.93	17
	Non-American Indian Only	42.26	10.63	13
	Not A Member	33.24	11.05	80
	Total	35.70	11.34	143

Table 31

Cont.

Dependent Variable	Student Organization Membership Type	*M*	*SD*	*n*
Learning with Peers	American Indian and non-American Indian	40.30	10.57	33
	American Indian Only	34.26	12.37	17
	Non-American Indian Only	40.38	10.50	13
	Not A Member	32.26	12.15	80
	Total	35.09	12.15	143
Experiences with Faculty	American Indian and non-American Indian	36.43	10.83	33
	American Indian Only	37.25	7.52	17
	Non-American Indian Only	40.34	12.86	13
	Not A Member	34.50	11.20	80
	Total	35.80	10.94	143
Campus Environment	American Indian and non-American Indian	41.89	10.95	33
	American Indian Only	41.27	9.81	17
	Non-American Indian Only	40.27	12.63	13
	Not A Member	38.42	13.65	80
	Total	39.72	12.55	143

Research Question 5: To what extent do family obligations predict the engagement of undergraduate Lumbee commuter students at UNC Pembroke?

Four dependent variables (academic challenge, learning with peers, experiences with faculty, and campus environment) were used to measure student engagement. Family obligations was the predictor (independent variable). Preliminary assumption testing, mentioned earlier in this chapter, was conducted to check for linearity, normality, homoscedasticity, and absence of multicollinearity. Multivariate regression with a single predictor was conducted to determine if family obligations by undergraduate Lumbee commuter students could be a predictor of academic challenge, learning with peers, experiences with faculty, and campus environment (Dattalo, 2013). The test statistic, $F(4.000, 137.000) = 2.232$, $p = .069$; Pillai's Trace = .061, indicated that family obligations were not a significant predictor of student engagement (see Table 32). The multivariate Partial Eta Squared (η^2) = .061. Partial Eta Squared, the proportion of total variation attributable to the factor while excluding other factors from the total non-error variation, was 6.1%. This is quite a small effect (Cohen, 1988). Since significance was not found, individual ANOVA results were not examined. A casual non-statistical inspection of the mean scores indicated undergraduate Lumbee commuter students, based on their family obligations, reported higher scores for campus environment ($M = 39.80$, $SD = 12.56$) and lower yet similar scores for academic challenge ($M = 35.77$, $SD = 11.34$), learning with peers ($M = 35.13$, $SD = 12.17$), and experiences with faculty ($M = 35.76$, $SD = 10.97$; see Table 33).

Table 32

Multivariate Regression Results for Student Engagement by Family Obligations (*n* = 142)

Dependent Variable		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Current Assistance to the Family	Pillai's Trace	.061	2.232	4.000	137.000	.069	.061

Table 33

Descriptive Statistics for Dependent Variables Based on Family Obligations (*n* = 143)

Dependent Variable	*M*	*SD*	*n*
Academic Challenge	35.78	11.34	142
Learning with Peers	35.13	12.17	142
Experiences with Faculty	35.76	10.97	142
Campus Environment	39.80	12.56	142

Additional Analyses

Additional analyses were conducted to examine the relationships between the study's key variables and to explore the data for Research Questions 2 and 4. The researcher reported out the correlations between the dependent variables and non-binary independent variables to guard against excessive overlap among the variables (see Table 34).

For Research Question 2, the researcher collapsed the five categories of the dependent variable academic classification to create three categories: underclassmen

(freshman/first-year and sophomore), upperclassmen (junior and senior), and unclassified. Collapsed categories make the analysis more robust when the categories have sparse data. A one-way MANOVA was performed to assess if there were differences between the three groups based on the four dependent variables. The Box's M test of homogeneity of variance-covariance matrices (p = .817) was not statistically significant. Levene's Test of Equality of Error Variances, which tests for violations of the assumption of equality of variance for the academic classification (collapsed) factor, was not statistically significant.

Table 34

Pearson Product-moment Correlations between the Dependent and Independent Variables

Variables	1	2	3	4	5	6	7	8
Academic Challenge	1							
Learning with Peers	.61**	1						
Experiences with Faculty	.57**	.44**	1					
Campus Environment	.36**	.31**	.53**	1				
Family Obligations	-.03	.08	.12	.19*	1			
GPA (Collapsed)	-.08	-.03	-.10	-.11	-.04	1		
Membership in a Student Organization	-.20*	-.24**	-.09	-.12	-.02	.04	1	
Academic Classification	.03	.06	-.09	-.09	.06	-.04	-.15	1

Note. ** p < .001 (2-tailed)
* p < .005 (2-tailed)
The binary independent variable gender was not included in the analysis.

There was not a statistically significant difference in engagement found between underclassmen, upperclassmen, and unclassified undergraduate Lumbee commuter

students, $F(8, 276.00) = .282$, $p = .971$; Pillai's Trace = .016; multivariate Partial Eta Squared (η^2) = .008 (see Table 35). Partial Eta Squared was 0.8%. This is quite a small effect (Cohen, 1988). Since significance was not found, individual ANOVA results were not examined. A casual non-statistical inspection of the mean scores indicated underclassmen, upperclassmen, and unclassified undergraduate Lumbee commuter students reported similar levels of engagement (see Table 36).

Table 35

MANOVA Results for Student Engagement by Academic Classification (Collapsed; *n* = 143)

Dependent Variable		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Academic Classification (Collapsed)	Pillai's Trace	.016	.282	8.000	276.000	.971	.008

Table 36

Descriptive Statistics for Dependent Variables Based on Academic Classification (Collapsed; *n* = 143)

Dependent Variable	Academic Classification	*M*	*SD*	*n*
Academic Challenge	Underclassmen	35.72	11.20	41
	Upperclassmen	35.60	11.40	92
	Unclassified	36.47	12.54	10
	Total	35.70	11.34	143

Table 36

Cont.

Dependent Variable	Academic Classification	*M*	*SD*	*n*
Learning with Peers	Underclassmen	34.81	12.68	41
	Upperclassmen	34.97	12.13	92
	Unclassified	37.33	10.71	10
	Total	35.09	12.13	143
Experiences with Faculty	Underclassmen	36.75	9.47	41
	Upperclassmen	35.68	11.55	92
	Unclassified	33.11	11.40	10
	Total	35.80	10.94	143
Campus Environment	Underclassmen	40.30	14.17	41
	Upperclassmen	39.64	12.21	92
	Unclassified	38.15	8.95	10
	Total	39.72	12.55	143

For Research Question 4, the researcher collapsed the four categories of membership in a student organization to create two categories: member (were or had been a member of an American Indian and non-American Indian student organization, member of an only American Indian student organization, and member of only a non-American Indian student organization) and non-member (not a member of a student organization). The categories were collapsed to make the analysis more robust when the categories have sparse data. A one-way MANOVA was performed to assess if there were

differences between the two groups based on the four dependent variables. The homogeneity of variance-covariance matrices (p = .073) was not statistically significant. Levene's Test of Equality of Error Variances, which tests for violations of the assumption of equality of variance for the membership in a student organization (collapsed) factor, was statistically significant for campus environment (p = .009).

While all the assumptions were not met, there was a statistically significant difference in engagement found between undergraduate Lumbee commuter students who were or had been members of a student organization and those who had not been members of a student organization, $F(4, 138) = 3.088$, p = .018; Pillai's Trace = .082; multivariate Partial Eta Squared (η^2) = .082 (see Table 37). Partial Eta Squared was 8.2%. This is quite a small effect (Cohen, 1988).

As a result of the significant difference, the results for the univariate dependent variables were considered. The only differences to reach statistical significance, using a Bonferroni adjusted alpha level of .012, were academic challenge, $F(1, 141) = 9.018$, p = .003; Partial Eta Squared (η^2) = .060, and learning with peers, $F(1, 141) = 10.562$, p = .001; Partial Eta Squared (η^2) = .070. Partial Eta Squared 6% (academic challenge) and 7% (learning with peers). Both are quite small effects (Cohen, 1988). A casual non-statistical inspection of the mean scores indicated undergraduate Lumbee commuter students who were or had been members of student organizations reported higher mean scores for student engagement than students who had never been a member of a student organization (see Table 38).

Table 37

MANOVA Results for Student Engagement by Membership in a Student Organization (Collapsed; *n* = 143)

Dependent Variable		Value	F	Hypothesis df	Error df	Sig.	Partial Eta Squared
Membership in A Student Organization (Collapsed)	Pillai's Trace	.082	3.088	4.000	138.000	.018	.082

Table 38

Descriptive Statistics for Dependent Variables Based on Membership in a Student Organization (Collapsed; *n* = 143)

Dependent Variable	Student Organization Membership Type	*M*	*SD*	*n*
Academic Challenge	Member of a Student Organization	38.82	11.00	63
	Not A Member of a Student Organization	33.24	11.05	80
	Total	35.70	11.34	143
Learning with Peers	Member of a Student Organization	38.69	11.22	63
	Not A Member of a Student Organization	32.26	12.15	80
	Total	35.09	12.13	143
Experiences with Faculty	Member of a Student Organization	37.46	10.46	63
	Not A Member of a Student Organization	34.50	11.20	80
	Total	35.80	10.94	143

Table 38

Cont.

Dependent Variable	Student Organization Membership Type	*M*	*SD*	*n*
Campus Environment	Member of a Student Organization	41.38	10.86	63
	Not A Member of a Student Organization	38.42	13.65	80
	Total	39.72	12.55	143

Summary

This chapter reviewed the results of statistical analyses conducted to evaluate the current study's research questions and hypotheses. For Research Question 1, a one-way MANOVA was performed to assess if there was a difference in student engagement by gender among undergraduate Lumbee commuter students at UNC Pembroke. Findings did not support a statistically significant difference in engagement between male and female undergraduate Lumbee commuter students.

For Research Question 2, a one-way MANOVA was performed to assess if there was a difference in student engagement by academic classification among undergraduate Lumbee commuter students at UNC Pembroke. Findings did not support a statistically significant difference in engagement of freshman, sophomore, junior, senior, and unclassified Lumbee commuter students. As an additional analysis, the researcher collapsed the five categories of the dependent variable academic classification into three categories. Findings from a one-way MANOVA did not show a statistically significant

difference in engagement between underclassmen, upperclassmen, and unclassified Lumbee commuter students.

Next, for Research Question 3, a one-way MANOVA was performed to assess if there was a difference in student engagement by GPA among undergraduate Lumbee commuter students at UNC Pembroke. Findings did not support a statistically significant difference in the engagement of high performing, mid-range, and low performing undergraduate Lumbee commuter students.

For Research Question 4, a one-way MANOVA was performed to explore if there was a difference in student engagement by membership in a student organization among undergraduate Lumbee commuter students at UNC Pembroke. Findings did not support a statistically significant difference in the engagement of undergraduate Lumbee commuter students who were or had been (a) members of American Indian and non-American Indian student organizations, (b) members of only American Indian student organizations, (c) members of only non-American Indian student organizations, and (d) not members of a student organization. As an additional analysis, the researcher collapsed the four categories of the dependent variable membership in a student organization into two categories. Findings from a one-way MANOVA did show a statistically significant difference in engagement between members and non-members of student organizations. These results support Astin's (1984, 1999) theory on student involvement and student engagement in HIPs such as membership in a student organization.

Last, Research Question 5 sought to determine whether family obligations predict the engagement of undergraduate Lumbee commuter students at UNC Pembroke.

Findings from a multivariate regression did not support the hypothesis that family obligations predict student engagement.

A summary of the current study, discussion of conclusions, and recommendations for practice and future research are presented in Chapter V.

CHAPTER V

SUMMARY AND DISCUSSION

American Indians are statistically "invisible" or underrepresented in national and longitudinal databases and quantitative studies (Guillory & Wolverton, 2008, p. 59). This phenomenon is called the "American Indian research asterisk" (Garland, 2007; Shotton et al., 2013). Consequently, there is a paucity of research on American Indians in higher education who commute, are from the state of North Carolina, and enrolled citizens of the Lumbee Tribe. The current study addressed the "American Indian research asterisk" by increasing the visibility and representation of American Indians, especially those who commute and are Lumbee, in quantitative studies. In addition, the study examined the engagement of undergraduate Lumbee commuter students at the University of North Carolina at Pembroke (UNC Pembroke) using items from the National Survey of Student Engagement (NSSE). The study also investigated the influence of family obligations on student engagement using Fuligni et al.'s (1999) Current Assistance to the Family subscale.

The study employed a quantitative cross-sectional, single institution research design, which is grounded conceptually in Astin's (1984, 1999) theory of student involvement and Kuh's (2009b) definition of engagement. Astin (1999) proposed, "the amount of student learning and personal development associated with any educational program is directly proportional to the quality and quantity of student involvement in that

program" (p. 528). Kuh (2009b) defined student engagement as "the time and effort students devote to activities that are empirically linked to desired outcomes of college and what institutions do to induce students to participate in these activities" (p. 683). Kuh's two-part definition married Astin's (1984) self-efficacy of students with the role and responsibility of institutions to provide programming and facilitate student engagement in those activities to enhance student learning and development (Kuh et al., 2008; Yearwood & Jones, 2012).

Utilizing decades of empirical research on the significance of student engagement, including Kuh's (2009a) work, the NSSE was developed in 1999 "to assess the extent to which students are engaged in empirically derived, good educational practices and what they gain from their college experiences" (Wolf-Wendel et al., 2009, p. 413). While empirical and conceptual gaps exist in NSSE, particularly as they relate to undergraduate Lumbee commuter students, the NSSE is the most widely used student engagement instrument (Pike & Kuh, 2005). The NSSE reports results on 10 Engagement Indicators and six High-Impact practices (see Table 1 in Chapter I). The Engagement Indicators, grouped into four themes (academic challenge, learning with peers, experiences with faculty, and campus environment) as prescribed by the NSSE (2018c), served as the dependent variables for the current study. The reduction in the number of possible dependent variables from 10 to 4 helped to control the sample size required by the study.

Fuligni et al.'s (1999) Current Assistance to the Family subscale, which assesses the expectations of how often adolescents should assist with household tasks and spend

time with their family, was used to measure the influence of family obligations on the engagement of undergraduate Lumbee commuter students in campus activities. The subscale was selected for use in this study because the Indigenous Knowledge Systems of American Indians emphasize the collectivist perspective, such that "the survival of Indigenous community is more important than any individual" (Brayboy et al., 2012, p. 16). The study received support from the Tribal Council of the Lumbee Tribe of North Carolina (see Appendix B).

The current study's five research questions explored differences in undergraduate Lumbee commuter student engagement by five independent variables. They include gender, academic classification, grade point average (GPA), and membership in a student organization. Research question five assessed whether family obligations, the fifth independent variable, predicted student engagement.

The study's survey (see Appendix A), hosted on Qualtrics—the University of North Carolina at Greensboro's online assessment platform—collected data from 144 participants who were enrolled undergraduate students at UNC Pembroke during the spring semester of 2019; 18 years of age or older; lived off campus; and self-identified as Lumbee. Data collection began February 20, 2019, and concluded March 15, 2019. Participants were recruited via social media and email [sent to UNC Pembroke's American Indian student listserv by the university's Center for Student Success (see Appendices C, D, E, and K)]; both methods were per IRB approved protocols (see Appendix G, H, and I). One-way multivariate analyses of variance (MANOVA) and multivariate regression were used to answer the research questions. The researcher used

the statistical software package IBM SPSS version 25.0 (IBM Corp., 2018) to analyze the data.

This chapter discusses the findings, limitations, and the significance of the study, along with implications for practice and future research and a concluding statement.

Discussion

This section provides a discussion of the current study's findings and a post-hoc non-statistical comparison of the engagement scores of undergraduate Lumbee commuters with students from UNC Pembroke and other institutions.

Findings of the Current Study

Research question one sought to determine if there was a difference in student engagement by gender among undergraduate Lumbee commuter students at UNC Pembroke. The researcher hypothesized there would be a statistically significant difference between male and female engagement. However, findings from a one-way MANOVA did not show a statistically significant difference in student engagement by gender ($F = .161$, $p = .957$). These findings may be inconsistent with Astin's (1984, 1999) theory of involvement and national data on American Indian student degree attainment. American Indian females have a higher rate of degree attainment than American Indian males (see Table 7 in Chapter II; NCES, n.d.g, n.d.h, n.d.i, n.d.j, n.d.k; the University of North Carolina, n.d.a). These higher rates of degree attainment suggest Native females have higher levels of engagement. However, there is not a direct or causal connection between engagement and attainment; engagement might be one factor among many that would support attainment. Unfortunately, there is no research on Lumbee or

American Indian commuter student engagement with which to compare the results of the current study. A lack of *group heterogeneity* among undergraduate Lumbee commuters at UNC Pembroke, discussed later in this chapter, may contribute to similar mean scores by gender (Allen & Yen, 2002).

Research question two explored if there was a difference in student engagement by academic classification among undergraduate Lumbee commuter students at UNC Pembroke. The researcher hypothesized there would be a statistically significant difference in the engagement of freshman, sophomore, junior, senior, and unclassified Lumbee commuter student engagement. However, findings from a one-way MANOVA did not show a statistically significant difference in student engagement between academic classifications ($F = .870$, $p = .605$). The current study found similar mean scores by academic classification among undergraduate Lumbee commuters (see Table 27 in Chapter IV). These findings are contrary to the NSSE scores reported in 2017 by students at UNC Pembroke (the last time the NSSE was administered at the institution), peer institutions of UNC Pembroke who are in the same Carnegie class, and in the University of North system (UNC system; see Table 39; The University of North Carolina at Pembroke, n.d.a), where seniors reported higher scores than first-year students on 9 of the 10 Engagement Indicators; the exception was supportive environment. An increase in engagement scores, from freshman to senior year, suggests engagement in campus activities increases as students' progress toward graduation. The similar scores across the academic classifications from the current study suggest the level of engagement for undergraduate Lumbee commuters does not increase in relation to

their academic classification and remains consistent throughout their undergraduate experience. Scores also suggests their attitudes about engagement do not change as they continue to prioritize other obligations over engagement in campus activities. These attitudes may be influenced by work and family obligations that persist throughout their undergraduate experience. For example, 58.3% of undergraduate Lumbee commuters, according to the current study, work more than 11 hours per week off campus for pay (see Table 40). Of those, 23.2%, or almost one in four, work more than 30 hours per week. Work obligations limit their campus engagement opportunities and force students to balance competing commitments, with engagement being less of a priority. Additional research is needed to explore the similar engagement scores across academic classifications.

Table 39

Post-hoc Comparison of Means of NSSE's 10 Engagement Indicators from the Current Study and 2017 Administration at UNCP

Dependent Variable	Engagement Indicators	Academic Classification	*M*			
			Current Study	UNCP	Carnegie Class	UNC System
Academic Challenge	Higher-Order Learning	All Students	36.39	--	--	--
		First-year	--	40.0	37.8	37.8
		Senior	--	40.3	40.5	40.9
	Reflective & Integrative Learning	All Students	36.15	--	--	--

Table 39

Cont.

Dependent Variable	Engagement Indicators	Academic Classification	*M*			
			Current Study	UNCP	Carnegie Class	UNC System
		First-year	--	35.3	34.9	35.3
		Senior	--	38.8	38.3	38.4
	Learning Strategies	All Students	43.15	--	--	--
		First-year	--	40.2	38.5	38.6
		Senior	--	39.5	39.4	40.1
	Quantitative Reasoning	All Students	26.53	--	--	--
		First-year	--	27.2	27.2	28.0
		Senior	--	27.4	29.5	30.8
Learning with Peers	Collaborative Learning	All Students	29.20	--	--	--
		First-year	--	30.2	30.6	34.4
		Senior	--	29.2	30.6	34.5
	Discussions with Diverse Others	All Students	41.28	--	--	--
		First-year	--	40.4	39.0	39.9
		Senior	--	42.9	40.1	40.8
Experiences with Faculty	Student-Faculty Interaction	All Students	26.28	--	--	--

Table 39

Cont.

Dependent Variable	Engagement Indicators	Academic Classification	*M*			
			Current Study	UNCP	Carnegie Class	UNC System
		First-year	--	25.0	20.4	21.2
		Senior	--	27.1	23.5	25.1
	Effective Teaching Practices	All Students	43.50	--	--	--
		First-year	--	40.8	39.1	37.1
		Senior	--	42.4	40.3	40.2
Campus Environment	Quality of Interactions	All Students	35.51	--	--	--
		First-year	--	39.6	41.7	40.9
		Senior	--	43.5	43.0	42.3
	Supportive Environment	All Students	42.43	--	--	--
		First-year	--	39.1	35.7	37.7
		Senior	--	36.7	31.8	33.7

Note: The University of North Carolina at Pembroke (n.d.a).

Table 40

How Participants Spend Their Time during the Week (by Percentage; *n* = 144)

Activity	Hours Per Week							
	0	1-5	6-10	11-15	16-20	21-25	26-30	31+
Preparing for Class	0.7%	28.5%	26.4%	16.7%	11.8%	9.7%	1.4%	4.9%
Participating in Co-curricular Activities	45.8%	38.9%	8.3%	3.5%	3.5%	--[a]	--[a]	--[a]
Work on Campus	72.9%	3.5%	5.6%	4.9%	5.6%	2.1%	2.8%	2.8%
Work off Campus	31.3%	3.5%	5.6%	6.9%	11.8%	11.1%	5.6%	22.9%
Community Service	47.2%	37.5%	8.3%	4.2%	1.4%	--[a]	--[a]	1.4%
Relaxing and Socializing	3.5%	40.3%	30.6%	11.1%	9.0%	2.8%	1.4%	1.4%
Care for Dependents	38.2%	20.1%	9.7%	4.9%	1.4%	4.2%	4.2%	17.4%
Commuting to Campus	6.9%	63.9%	19.4%	4.2%	2.1%	0.7%	0.7%	2.1%

Note. [a] None Reported

An additional analysis explored the relationship between academic classification and student engagement among undergraduate Lumbee commuter students at UNC Pembroke. The researcher collapsed the five categories of the dependent variable academic classification to make the analysis more robust and to create three categories: underclassmen (freshman/first-year and sophomore), upperclassmen (junior and senior),

and unclassified. The researcher hypothesized there would be a statistically significant difference in the engagement of underclassmen, upperclassmen, and unclassified Lumbee commuter students. Findings from a one-way MANOVA did not show a statistically significant difference in engagement between underclassmen, upperclassmen, and unclassified Lumbee commuter students ($F = 0.282$, $p = .971$). The engagement means for underclassmen, upperclassmen, and unclassified Lumbee commuter students were very similar (see Table 36 in Chapter IV). As mentioned in the previous paragraph, the scores contradict the Engagement Indicator scores reported by all students at UNC Pembroke and peer and UNC system institutions in 2017 (see Table 39), where seniors reported higher scores than first-year students on 9 of the 10 Engagement Indicators. Also noted earlier, the constant influences on student attitudes about campus engagement, by commitment to work and supporting the family may be reflected in the similar engagement scores across the academic classifications for undergraduate Lumbee commuters.

Research Question 3 sought to determine if there was a difference in student engagement by GPA among undergraduate Lumbee commuter students at UNC Pembroke. The researcher hypothesized there would be a statistically significant difference in the engagement of undergraduate Lumbee commuter students who had GPAs that were high performing (4.0 to 3.5 and 3.49 to 3.0), mid-range (2.99 to 2.5), and low performing (2.49 to 2.0 and 1.99 and lower). Findings from a one-way MANOVA did not show a statistically significant difference in student engagement between undergraduate Lumbee commuter students by GPA ($F = .904$, $p = .513$). Additionally,

almost zero correlation exists between GPA and undergraduate Lumbee commuter student engagement (see Table 34 in Chapter IV); the correlations between GPA and the dependent variables of academic challenge, learning with peers, experiences with faculty, and campus environment are not significant.

Research Question 4 explored if there was a difference in student engagement by membership in a student organization among undergraduate Lumbee commuter students at UNC Pembroke. The researcher hypothesized there would be a statistically significant difference in the engagement of undergraduate Lumbee commuter students who were (or had been) (a) members in American Indian and non-American Indian student organizations, (b) members in only American Indian student organizations, (c) members in only non-American Indian student organizations, and (d) not members of student organizations. Findings from a one-way MANOVA did not show a statistically significant difference in student engagement by the membership categories ($F = 1.589$, $p = .092$). Although no significant difference was found, students who were or had been members of non-American Indian student organization ($n = 13$) reported higher levels of engagement for three dependent variables. These results may be attributed to the small number of American Indian student organizations ($n = 4$) at UNC Pembroke and the type of organization; two are Greek organizations and a third has a science and engineering focus. Students who had never been members of student organizations (56.3%) reported the lowest mean scores across the dependent variables (see Table 31 in Chapter IV). These findings suggest a relationship between membership in a student organization and engagement scores among undergraduate Lumbee commuter students at UNC Pembroke.

As Lundberg (2007) asserted, engagement in campus social groups is a predictor of Native student college success. These findings highlight a possible relationship between undergraduate Lumbee commuter students not participating in student organizations and their anemic persistence and graduation rates at UNC Pembroke. Follow-up qualitative research may provide insight into undergraduate Lumbee commuter students surprisingly high rate of not participating in student organizations and why 84.7% (see Table 40) spend five or less hours per week participating in co-curricular activities (e.g., organizations, intramurals). The follow-up research can gather data on whether current student organizations align with student interests, the types of organizations in which students have an interest, and the best organizational meeting times. The lack of student participation may reflect that engagement is a low priority for students who work or have off-campus obligations.

An additional analysis was conducted to explore the relationship between membership in a student organization and student engagement among undergraduate Lumbee commuter students at UNC Pembroke. The researcher collapsed the four categories of membership in a student organization to make the analysis more robust and to create two categories: member (students who were or had been members of American Indian and non-American Indian student organizations, members of only American Indian student organizations, and members of only non-American Indian student organizations) and non-member (students who were not members of student organizations). The researcher hypothesized there would be a statistically significant difference in the engagement of undergraduate Lumbee commuter students by

membership category. Findings from a one-way MANOVA showed a statistically significant difference in engagement between members and non-members of student organizations ($F = 3.088$, $p = .018$). When considering the dependent variables separately, statistically significant differences were found among academic challenge ($F = 9.018$, $p = .003$) and learning with peers ($F = 10.562$, $p = .001$). These findings about the dependent variable suggest members of student organizations are more engaged in academic and curricular activities with their peers.

A casual non-statistical inspection of all the mean scores from the current study indicated undergraduate Lumbee commuter students who were or had been members of student organizations reported higher mean scores for student engagement than students who had never been members of student organizations (see Table 38 in Chapter IV). These results support Astin's (1984, 1999) theory on student involvement and student engagement in High-Impact Practices (e.g., membership in a student organization), which have a positive association with student learning and retention (NSSE, 2018d). Murguía et al. (1991) suggested membership in a Native student organization can help American Indian students strengthen the bond between themselves, their tribal community, and their institution. Undergraduate Lumbee commuter students, however, may not be members of a student organization because the social support residential students seek in student organizations is available to undergraduate Lumbee commuters at home and in their tribal community. In addition, during a typical 7-day week, the majority (58.3%) of undergraduate Lumbee commuter students work 11 or more hours per week off campus, with one-in-five (22.9%) working 31 or more hours (see Table 40). Work obligations,

along with time spent in class and preparing for class, may restrict undergraduate Lumbee commuter opportunities to participate in student organizations. Simpson and Burnett (2017) suggested, "commuter students have to choose how and when they participate in campus activities wisely to balance multiple obligations while overcoming challenges to complete a college education" (p. 3).

Research Question 5 sought to determine whether family obligations predict the engagement of undergraduate Lumbee commuter students at UNC Pembroke. The researcher hypothesized family obligations are predictors of undergraduate Lumbee commuter student engagement. Findings from a multivariate regression with a single predictor did not support the hypothesis that family obligations predict student engagement ($F = 2.232$, $p = .069$). Undergraduate Lumbee commuter students, based on their family obligations, reported higher scores for campus environment ($M = 39.80$, $SD = 12.56$) and lower, yet similar, scores for academic challenge ($M = 35.77$, $SD = 11.34$), learning with peers ($M = 35.13$, $SD = 12.17$), and experiences with faculty ($M = 35.76$, $SD = 10.97$; see Table 33 in Chapter IV). The statistical analysis bordered being significant ($p = .069$); future research with a greater sample size might contribute to a significant finding.

Findings from the current study illustrate the level of undergraduate Lumbee commuter student engagement in High-Impact Practices (HIPs; see Table 22 in Chapter IV). The highest levels of participation were in mandated curricular activities: participation in an internship, co-op, field experience, student teaching, or clinical placement (68.7%) and a culminating senior project (49.3%). Extracurricular and co-

curricular activities, such as participation in study abroad (20.2%), work with a faculty member on a research project (32.7%), formal leadership in a student organization (38.2%), and participating in a learning community (42.3%), had the lowest levels of participation. The majority (56.3%) of the current study's participants reported not currently nor ever being members of student organizations (see Table 20 in Chapter IV). During a typical 7-day week, 84.7% of undergraduate Lumbee commuters spent five or less hours per week participating in co-curricular activities (see Table 40). While each HIP is offered at UNC Pembroke, partial explanation for low levels of undergraduate Lumbee commuter student engagement may be attributed to few academic majors requiring a culminating senior experience and limited opportunities to work with a faculty member on a research project. Commuter students have other obligations (e.g., off-campus employment) that may force them to prioritize work over participation in non-mandated extracurricular and co-curricular activities. Mandated or incentivized participation in HIPs by UNC Pembroke may increase student engagement in these activities.

HIPs also have the potential to provide Lumbee commuters with "interconnected, academically and socially engaging experiences" that cultivate student learning and, more importantly, promote relationship development with faculty, staff, and peers (Johnson & Stage, 2018, p. 755). More culturally congruent HIPs would be connected to the Lumbee and other American Indian communities such as study abroad in other tribal communities within and beyond the United States (with financial assistance from the institution), service-learning opportunities in the Lumbee community, paid internships (to

provide income during the internship), and stipend-based research projects with faculty on Lumbee or Native-related topics.

Post-hoc Non-Statistical Comparisons

As a post-hoc analysis not part of the initial study, the researcher compared the results of the current study to NSSE scores reported by the 2017 by all students at UNC Pembroke, peer institutions, and UNC system institutions as a way to better understand and contextualize the current findings (The University of North Carolina at Pembroke, n.d.a). A casual non-statistical review of the mean scores for the current study (see Table 39), compared to the average of the scores for first-year and senior students from the 2017 results, suggests undergraduate Lumbee commuter students at UNC Pembroke had similar or higher mean scores for:

- Eight of the 10 Engagement Indicators when compared to all UNC Pembroke students;
- Seven of the 10 Engagement Indicators when compared to all peer institution students; and,
- Six of the 10 Engagement Indicators when compared to all UNC system students.

Since there are no other studies on undergraduate Lumbee commuters, this comparison helps to better understand the scores reported by undergraduate Lumbee commuter students at UNC Pembroke and to make non-statistical comparisons of their scores with those of their peers at UNC Pembroke and other institutions. Consequently, the post-hoc comparisons suggest undergraduate Lumbee commuters at UNC Pembroke had similar or

higher levels of engagement when compared to all students at UNC Pembroke. Future research can provide a better understanding of these and other differences in the mean scores.

Findings from the current study suggest undergraduate Lumbee commuter students at UNC Pembroke, like other commuter students (Jacoby, 200b), are tasked with balancing competing commitments that include school, work, family, and other responsibilities. Both groups "are not less committed to their education; they simply cannot always make education their primary focus" (p. 5). These commitments reduce their time to be engaged on campus, as suggested by the current study's findings. Despite the historical struggle of higher education to accommodate and serve the needs of a unique population such as undergraduate Lumbee commuter students (Guillory & Wolverton, 2008), a casual non-statistical review of the mean scores for the current study suggests similar levels of engagement (see Table 39) with all students at UNC Pembroke and other institutions.

Limitations

There are several limitations to the current study, particularly with instrumentation, participants, and variables. The NSSE (2018f) and the Current Assistance to the Family (Fuligni et al., 1999) subscale, both showing acceptable reliability within the sample, have not been validated for undergraduate Lumbee commuter students. Campus environment, a dependent variable for research questions one through four, violated the assumption of normality of distribution. An assumption of

normality implies data roughly fits a bell-curved shape. This assumption can be violated without serious error being introduced into a test (Agresti & Finlay, 2009).

Another limitation of the current study is the homogeneity of the sample group—undergraduate Lumbee commuter students at UNC Pembroke. Shared cultural norms and experiences as commuter students may contribute to less variance among engagement scores. Therefore, the relatively homogeneous population, or lack of *group heterogeneity* among undergraduate Lumbee commuters at UNC Pembroke, may restrict the range of variance in the means (Allen & Yen, 2002). Group homogeneity can also impact the validity and reliability of a measure. Also contributing to the not statistically significant findings was the study's lack of power to detect differences in the sample (due to the sample size) and very little separation among the population members on the measures. A counterpoint to the homogeneity of the sample group being a limitation to the current study is that the similar engagement scores may reflect shared cultural norms, experiences, and ultimately, a shared identity as a tribal people.

While the mean engagement scores for undergraduate Lumbee commuter students at UNC Pembroke were similar to the 2017 NSSE results reported in Table 39, it is possible the measures are not sensitive enough to pick up on the ways undergraduate Lumbee commuter students differ in engagement. The NSSE (2018f), a nationally normed measure, and the Current Assistance to the Family (Fuligni et al., 1999) subscale more than likely did not take undergraduate Lumbee commuters into consideration during their creation. As a result, the measures need to be normed for undergraduate Lumbee commuter students.

Any statistically significant findings from the current study are generalizable to Lumbees but not to American Indian students in higher education due to tribal differences that distinguish the nations from each other. Further research is needed to provide validity and reliability evidence to support the use of the NSSE (2018f) and the Current Assistance to the Family (Fuligni et al., 1999) subscale with American Indian students in higher education.

The study is also limited by the demographics of the study's participants. The large majority of participants were 18-24 years of age (66.0%), full-time (79.2%), female (78.5%), upperclassmen (64.6%)—senior (41.7%) or junior (22.9%), and reported GPAs of 2.5 or higher (86.1%; see Tables 15-20 in Chapter IV). Only one in ten participants was freshman/first-year (9.7%) and reported GPAs of 2.49 or lower (11.1%)—2.49 to 2.0 (9.0%) and 1.99 or lower (2.1%). A minimum GPA of 2.0 is required to graduate from UNC Pembroke. More variety in the participants' demographics may have contributed to greater variance among the current study's engagement scores.

Significance of the Study

The current study addressed the "American Indian research asterisk" by increasing the visibility and representation of undergraduate Lumbee commuter students at UNC Pembroke in quantitative studies through an examination of their engagement using the NSSE (2018f) and Fuligni et al.'s (1999) Current Assistance to the Family subscale. The current study contributed to the literature on American Indian education and American Indian students and their engagement in higher education, particularly those who commute, are from North Carolina, and are citizens of the Lumbee Tribe. The

current study also added to the literature on the NSSE and Current Assistance to the Family subscale as tools for measuring the engagement of undergraduate Lumbee commuter students.

Findings from the current study contributed to the literature in a few ways. First, this may have been the first empirical study on the engagement of American Indian commuter students, particularly those who are Lumbee. Second, undergraduate Lumbee commuters, like other commuters, are tasked with balancing competing commitments that include school, work, family, and other responsibilities. Next, off-campus commitments may reduce their time to be engaged on campus. More than 58.3% work 11 hours or more per week off campus for pay (see Table 40). They prioritize participation in HIPs mandated by degree requirements (see Table 22 in Chapter IV). There was also a statistically significant difference in engagement scores between members and non-members of student organizations (see Table 38 in Chapter IV).

Implications for Practice

Since the earliest days of higher education in the United States, institutions have relied on residential models that are now "the collegiate way" (Rudolph, 1962, p. 87). The Commission on the Future of Community Colleges (1988) noted the ineffectiveness of traditional residential models when they proposed these models were no longer appropriate for many students. The Commission found "what works with full-time, single, well-prepared residential students does not necessarily work with part-time students who have jobs and families and who have often experienced less academic success in their previous schooling" (p. 7). As Kuh (2009b) suggested in his definition of

engagement, senior administrators, faculty, and staff, particularly Student Affairs professionals, have a responsibility to examine their policies, procedures, programming, and academic curricula to provide curricular, co-curricular, and extracurricular activities and support services that induce undergraduate Lumbee commute students to participate in activities that promote their cognitive and psychosocial development. These policies and practices need to simultaneously support undergraduate Lumbee commuter students' ability to balance being students with the maintenance of their Lumbee identity and connection to the family through continued residence in their tribal community (Bass, 2013; Guillory & Wolverton, 2008; Waterman, 2007, 2012).

Prior to facilitating stronger connections with and commitments to undergraduate Lumbee commuter students and discourse around Native topics, institutional leaders need to become more culturally competent by expanding their knowledge of Lumbee students and the Lumbee community they represent (Shotton et al., 2013). Cultural programming, facilitated by culturally proficient professionals, can build cohesion and belonging among undergraduate Lumbee commuter students, increase their comfort with and affinity for the institution, and strengthen the institution's bond with Lumbee students and their tribal community (Shotton et al., 2013).

Indigenizing the academy is a Native-centered approach to weaving "indigenous peoples, cultures[,] and knowledge into the fabric of their campuses" (MacDonald, 2016, para. 1). Through this process, "many universities are making a conscious effort to bring indigenous people, as well as their philosophies and cultures, into strategic plans, governance roles, academics, research[,] and recruitment" (para. 4).

Institutional indigenization takes on many forms. The process begins with curricula and pedagogical changes that privilege and infuse the Indigenous Worldview into the curriculum (e.g., undergraduate and graduate programs in American Indian Studies and courses on contemporary Native topics; MacDonald, 2016). For most institutions with small American Indian student populations, curricular indigenization may be a gradual process best implemented in small steps through the inclusion of Indigenous modules in existing courses such as music, art, history, religion, environmental science, and governance as a way to abate resistance from gatekeepers within the academy. Institutions with large Native student populations may face less resistance during this process. UNC Pembroke offers an undergraduate degree, concentration, and minor in AIS; a core course requirement focuses on Lumbee history and culture. The NSSE, however, does not collect data on students who take AIS courses. Institutions should also hire Lumbee and other American Indian faculty to serve as mentors for these students. Other institutional indigenization efforts should include: promoting student self-efficacy; maintaining connections to culture through campus programming; providing support services specifically for undergraduate Lumbee commuter students that serve to address commuter challenges; opening a cultural center with space for these students to cook or warm their meals, engage with their peers, study between classes, and hold student organization meetings; hold programming during the day when students are on campus; and, support student-coordinated powwows that not only celebrate and showcase Native ceremonies and cultural life but engage students, their families, and tribal community members (MacDonald, 2016; Shotton et al., 2013, p.

15). Other efforts could include: Native living and learning communities; student mentoring program; active recruitment of Lumbee commuters by faculty to participate in research projects; and, campus employment opportunities (e.g., tutors, counselors for summer programs) that promote leadership development (MacDonald, 2016).

UNC Pembroke recently implemented many of these strategies. The Southeast American Indian Studies Program, established in 2012, is home to the American Indian Student Study Lounge and Study Area, which features a conference room, study areas, a mini-computer lab, refreshments, a television, and space for American Indian students to engage with peers between classes. A Native learning community and American Indian Welcome Back Social were instituted in the fall of 2013. The social welcomes Native students to campus and provides an opportunity for them to engage with their Native peers, faculty, and staff. The third annual #BraveNation Powwow and Gathering, first held in March 2017, has quickly grown into the largest college powwow in the state of North Carolina and features a Native student recruitment event and alumni social. The number of undergraduate Lumbee commuter students participating in research projects, on-campus employment opportunities, and Native programming is increasing, per observations by the researcher.

Providing robust, comprehensive systems that support Native student organizations and undergraduate Lumbee commuter student participation in these organizations is another way to shape and increase undergraduate Lumbee commuter student engagement in campus activities. These organizations can be based on students' majors and areas of interest (e.g., American Indian Science and Engineering Society,

American Indigenous Business Leaders, beading, drum circle). An American Indian student council, with representatives from each Native student organization, can promote increased communication and networking between the organizations and their members along with a strengthened Native community on campus. Findings from the current study support efforts and benefits to improving undergraduate Lumbee commuter student membership in student organizations. UNC Pembroke recently began facilitating the establishment of additional American Indian student organizations that align more closely with the interests of Native students. These efforts should yield increased campus engagement by undergraduate Lumbee commuters.

Indigenization also embraces students' family members and connections to home as positive influences on Native student persistence (Shotton et al., 2013, p. 15). The family is the number one factor affecting the persistence of American Indian students (Bass, 2013; Guillory & Wolverton, 2008). Consequently, institutions should utilize HeavyRunner and DeCelles's (2002) Family Education Model as a way to simultaneously facilitate American Indian student engagement, promote the familial support network (e.g., establishment of a Lumbee family council), and demonstrate a commitment to Native student success as suggested by Kuh (2009b) and Lundberg (2007). In 2015, UNC Pembroke first held Native Strong, an orientation for first-year American Indian students, to encourage Native students to get engaged in campus activities and to provide tools for their transition from high school to college. The first American Indian Academic Achievement Ceremony was established in 2018 to recognize Native graduates and the academic accomplishments of Native students. The parents and

family members of American Indian students are highly encouraged to attend these events. Although the current study did not find a statistically significant relationship between family obligations and engagement, improved institutional engagement with family members, who influence the decision making of Native students, may improve the engagement of undergraduate Lumbee commuter students in campus activities. These efforts will also increase opportunities for undergraduate Lumbee commuters to broaden their definition of community to include the campus community, thereby increasing their engagement in campus activities, relationships with faculty, staff, and peers, expanding their support network, and improving academic performance.

Efforts to improve the engagement of undergraduate Lumbee commuter students also include increasing their participation in High-Impact Practices (HIPs). Curricular-infused HIPs will increase undergraduate Lumbee commuter student engagement if participation in these activities is mandated to meet degree requirements. According to the current study, students participated at higher levels in HIPS infused into the curriculum.

Implications for Future Research

A qualitative follow-up to the current study can provide insight on undergraduate Lumbee commuter student engagement habits and influences on their engagement (e.g., Lumbee cultural values and norms, family and work obligations, relationships with Native and non-Native faculty, staff, and peers, and parental/familial attitudes about students' campus engagement, especially when students are first-generation college students or whose parents attended college and may or may not have been engaged in

campus activities) beyond the limits of a quantitative study and reliance on standard measures such as the NSSE. Qualitative inquiry can mine reasons for and challenges to undergraduate Lumbee commuter engagement and explore differences in the mean scores for membership in a student organization (see Tables 31 and 38 in Chapter IV) and the 10 Engagement Indicators (see Table 21 in Chapter IV). Additional studies can also compare undergraduate Lumbee commuters with non-commuter Lumbees and UNC Pembroke commuters as well as other Native and non-Native commuters at UNC Pembroke, peer institutions, and UNC system institutions to explore if the population varies from other groups. To deepen the understanding of American Indian commuters, the current study should also be replicated at Tribal Colleges and Universities (TCUs) and Native American-serving nontribal institutions, particularly those with the largest American Indian student enrollment (see Table 3 in Chapter II), along with institutions that have large American Indian commuter populations.

The Lumbee and American Indian empirical and conceptual gaps in the NSSE can be bridged by adding culturally relevant items to the instrument to better measure and understand Native student engagement in campus and cultural activities, on and off campus, and the influence of campus and tribal engagement on their success in higher education. The updated instrument should collect American Indian students' tribal affiliation (to measure tribal differences in student engagement) and data on their engagement in tribal and Native-related campus activities as well as relationships with American Indian faculty, staff, students, and participation in Native curricular activities (e.g., taking AIS courses). Other items to add include a Likert scale with involvement in

tribal community activities (e.g., ceremonies, powwow, church); absence or presence of an American Indian community on campus; quality of relationships with American Indian faculty, staff, and students; and student perceptions of familial attitudes on campus engagement.

Additionally, the combined non-statistical significance of the current study's results and small effect sizes suggests there are other variables at play that were not identified by the study. The unknown variables need future exploration. The applicability of the NSSE and Fuligni et al.'s (1999) Current Assistance to the Family subscale for measuring Lumbee student engagement in higher education should be explored. While the NSSE and subscale had good reliability scores, are they appropriate for the population? It is reasonable to question whether the scores reported in the current study are valid. The need for applicability exploration is more evident considering the NSSE, the most widely used student engagement instrument (Pike & Kuh, 2005), is based on an outdated residential model at a time when more students are commuting to campus.

Future research should also utilize a mixed methods approach to explore predictors of engagement; the influence of family obligations on Lumbee commuters; and the process students use to prioritize engagement in campus activities. A longitudinal study could explore student engagement from the freshman to senior year to determine if engagement increases, remains the same, or decreases. Future research may contribute to the creation of a Lumbee engagement theory that emphasizes relationships with the family or a scale designed specifically for measuring Lumbee commuter engagement and the influence of the family on their engagement.

Future research should also reconsider the definition of engagement and activities that constitute engagement, especially for students who commute and are Lumbee. What is engagement from the perspective of an undergraduate Lumbee commuter student? How might involvement in tribal or community activities for Lumbee commuters be included? Jacoby (1989) argued that the U.S. residential tradition created a system replete with inequities that "de facto discriminates" against commuter students in favor of residential students (p. iii). Institutions have thus failed to incorporate commuter students into policies, programs, and practices. Institutional leaders who received degrees from traditional residential institutions have, according to Jacoby (1989), "too often assumed erroneously that what has worked for residential students will serve commuter students equally well" (p. iii). Future research is necessary to address this residential privilege and related issues, including the building of a new instrument that better reflects engagement by undergraduate Lumbee commuters from a Lumbee perspective.

Conclusion

Engagement is the intersection of the student and the institution (L. M. Gonzalez, personal communication, April 4, 2019). Commuter students represent 87% of U.S. postsecondary students (NCES, 2014). To improve the engagement of undergraduate Lumbee commuter students, U.S. institutions of higher education should reexamine, reconsider, and redefine traditional residential models to include commuter students (Commission on the Future of Community Colleges, 1988; Jacoby, 1989). Such efforts, conducted in conjunction with the indigenization of the academy, will better serve the needs of undergraduate Lumbee commuter students and help to address the "historically

unresolved problem . . . [of] getting Native American students through the mainstream higher education pipeline" (Guillory & Wolverton, 2008, p. 58). Consequently, institutions—and Lumbee students—can abate and transcend the assimilationist ideals rooted in the U.S. educational system. Institutions can then promote the cultural, cognitive, and psychosocial development of undergraduate Lumbee commuter students by utilizing Indigenous Knowledge Systems and Native-based strategies that improve their engagement in campus activities and, subsequently, their rates of perseverance, graduation, and degree attainment. Empowered, educated, and self-determined undergraduate Lumbee commuter students will ensure the survival of their tribal community and serve as models for cultural persistence, engagement in campus activities, and academic achievement for future generations of undergraduate Lumbee commuter students.

REFERENCES

Agresti, L., & Finlay, B. (2009). *Statistical methods for the social sciences* (4th ed.). Upper Saddle River, NJ: Pearson Prentice Hall.

Alfano, H. J., & Eduljee, N. B. (2013, Summer). Differences in work, levels of involvement, and academic performance between residential and commuter students. *College Student Journal, 47*(2), 334–342.

Alfert, E. (1966). Housing selection, need satisfaction, and drop-out from college. *Psychological Reports, 19*(1), 183–186. doi:10.2466/pr0.1966.19.1.183

Allen, M. J., & Yen, W. M. (2002). *Introduction to measurement theory*. Long Grove, IL: Waveland Press, Inc.

American Indian Higher Education Consortium. (2018a). *About AIHEC*. Retrieved from http://www.aihec.org/who-we-are/index.htm

American Indian Higher Education Consortium. (2018b). *AIHEC membership*. Retrieved from http://www.aihec.org/who-we-are/membership.htm

American Indian Higher Education Consortium. (2018c). *Tribal colleges and universities*. Retrieved from http://www.aihec.org/who-we-serve/TCUmap.cfm

Arboleda, A., Wang, Y. Y., Shelley, M. C., & Whalen, D. F. (2003). Predictors of residence hall involvement. *Journal of College Student Development, 44*(4), 517–531.

Armstrong, E. A., & Hamilton, L. T. (2013). *Paying for the party: How college maintains inequality*. Cambridge, MA: Harvard University Press.

Ashford, K. (2014). *More millennials living at home to save on college costs*. Retrieved from https://www.forbes.com/sites/kateashford/2014/08/08/millenials-living-at-home/#d2a41135171d

Aslanian, C. B., & Brickell, H. M. (1980). *American in transition: Life changes as reason for adult learning*. New York: NY: College Entrance Examination Board.

Astin, A. W. (1973). The impact of dormitory living on students. *The Educational Record*, *54*(9), 204–210.

Astin, A. W. (1975). *Preventing students from dropping out*. San Francisco, CA: Jossey-Bass.

Astin, A. W. (1977). *Four critical years*. San Francisco, CA: Jossey-Bass.

Astin, A. W. (1984). Student involvement: A developmental theory for higher education. *Journal of College Student Personnel*, *25*(4), 297–308.

Astin, A. W. (1985). Involvement: The cornerstone of excellence. *Change*, *17*(4), 34–39. Retrieved from http://www.jstor.org/stable/40164353

Astin, A. W. (1993a). *What matters in college: Four critical years revisited*. San Francisco, CA: Jossey-Bass.

Astin, A. W. (1993b). An empirical typology of college students. *Journal of College Student Development*, *34*(1), 36–46.

Astin, A. W. (1996). Involvement in learning revisited: Lessons we have learned. *Journal of College Student Development*, *37*(2), 123–134.

Astin, A. W. (1998). The changing American college student: Thirty-year trends, 1966-1996. *Review of Higher Education, 21*(2), 115–135.

Astin, A. W. (1999). Student involvement: A developmental theory for higher education. *Journal of College Student Development, 40*(5), 518–529.

Austin, S. A. (2006). A successful university-foundation partnership to assist non-traditional transfer women. *Journal of College Student Retention: Research, Theory & Practice, 8*(3), 275–295.

Bass, J. (2013). *Examining the academic persistence behaviors of American Indian transfer students and the implications of these on the pursuit of a bachelor's degree* (Doctoral dissertation) (Order No. 3577754). Retrieved from ProQuest Dissertations & Theses Global. (1473904222).

Belgarde, W. L. (1996). History of American Indian community colleges. In C. Turner, M. Garcia, A. Nora, & L. I. Rendon (Eds.). *Racial and ethnic diversity in higher education* (pp. 18–27). ASHE Reader Services. Boston, MA: Pearson.

Blimling, G. S. (1989). A meta-analysis of the influence of college residence halls on academic performance. *Journal of College Student Development, 30*(4), 298–308.

Blimling, G. S. (1993). The influence of college residence halls on students. In J. Smart (Ed.), *Higher Education: Handbook of Theory and Research, IX* (pp. 248–307). New York, NY: Agathon.

Bonet, G., & Walters, B. R. (2016). High impact practices: Student engagement and retention. *College Student Journal, 50*(2), 224–235.

Bowker, A. (1992). The American Indian female dropout. *Journal of American Indian Education, 31*(3), 3–20.

Bowman, N. A., & Holmes, J. M. (2018, July). Getting off to a good start? First-year undergraduate research experience and student outcomes. *Higher Education, 76*(1), 17–33.

Brayboy, B. M. J., Fann, A. J., Castagno, A. E., & Solyom, J. A. (2012). Postsecondary education for American Indian and Alaska Natives: Higher education for nation building and self-determination. *ASHE Higher Education Report, 37*(5). San Francisco, CA: Jossey-Bass.

Brookfield, S. D. (1986). *Understanding and facilitating adult learning*. San Francisco, CA: Jossey-Bass.

Brown, L. L., & Robinson Kurpius, S. E. (1997). Psychosocial factors influencing persistence of American Indian college students. *Journal of College Student Development, 38*(1), 3–12.

Burlison, M. B. (2015, summer). Nonacademic commitment affecting commuter student involvement and engagement. *New Directions for Student Services, 2015*(150), 27–34. doi:10.1002/ss.20124

Burrell, J. (2018, September 3). *What is a commuter student? What colleges offer to students who commute to class*. Retrieved from https://www.thoughtco.com/what-is-a-commuter-student-3569963

Cabrera, V. A. (1978). *Minorities in higher education: Chicanos and others*. Niwot, CO: Sierra.

Cambridge-Williams, T., Winsler, A., Kitsantas, A., & Bernard, E. (2013). University 100 orientation courses and living-learning communities boost academic retention and graduation via enhanced self-efficacy and self-regulated learning. *Journal of College Student Retention, 15*(2), 243–268. doi:10.2190/CS.15.2.f

Carini, R., Kuh, G., & Klein, S. (2006). Student engagement and student learning: Testing the linkages*. *Research in Higher Education, 47*(1), 1–32. doi:10.1007/s11162-005-8150-9

Carney, C. M. (1999). *Native American higher education in the United States*. New Brunswick, NJ: Transaction Publishers.

Chapman, D. W., & Pascarella, E. T. (1983). Predictors of academic and social integration of college students. *Research in Higher Education, 19*(3), 295–322.

Chickering, A. W. (1974). *Commuting versus resident students: Overcoming the educational inequities of living off campus*. San Francisco: Jossey-Bass.

Chickering, A. W., & Gamson, Z. F. (1987). Seven principles for good practice in undergraduate education. *AAHE Bulletin, 39*(7), 3–7.

Clark, M. R. (2006). Succeeding in the city: Challenges and best practices on urban commuter campuses. *About Campus, 11*(3), 2–8. doi:10.1002/abc.166

Cohen, J. W. (1988). *Statistical power analysis for the behavioral sciences.* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates.

Cole, J. S., & Denzine, G. M. (2002). Comparing the academic engagement of American Indian and White college students. *Journal of American Indian Education, 41*(1), 19–34.

Commission on the Future of Community Colleges. (1988). *Building communities: A vision for a new century*. Washington, DC: American Association of Community and Junior Colleges.

Cunningham, A. F. & Redd, K. E. (2000, May). *Creating role models for change: A survey of tribal college graduates*. Retrieved from https://files.eric.ed.gov/fulltext/ED456947.pdf

Dattalo, P. (2013). *Analysis of multiple dependent variables*. New York, NY: Oxford University Press.

de Araujo, P., & Murray, J. (2010). Channels for improved performance from living on campus. *American Journal of Business Education, 3*(12), 57–64.

DeAngelo, L. (2014). Programs and practices that retain students from the first to second year: Results from a national study. *New Directions for Institutional Research, 2013*(160), 53–75. doi:10.1002/ir.20061

Deyhle, D., & Swisher, K. (1997). Research in American Indian and Alaska Native education: From assimilation to self-determination. *Review of Research in Education, 22*, 113–194. doi:10.2307/1167375

Ecklund, T., & Terrance, D. (2013). Extending the rafters: Cultural context for Native American students. In H. J. Shotton, S. C. Lowe, & S. J. Waterman (Eds.), *Beyond the asterisk: Understanding Native students in higher education* (pp. 53–66). Sterling, VA: Stylus Publishing.

Edwards, K., & McKelfresh, D. (2002). The impact of a living-learning center on students' academic success and persistence. *Journal of College Student Development, 43*(3), 395–402.

Eliades, D., Locklear, L. T., & Oxendine, L. E. (2014). *Hail to UNCP! A 125-year history of the University of North Carolina at Pembroke*. Chapel Hill, NC: Chapel Hill Press.

Evans, N. J., Forney, D. S., & Guido-DiBrito, F. (1998). *Student development in college: Theory, research, and practice*. San Francisco, CA: Jossey-Bass.

Evelyn, J. (2002, June 14). Nontraditional students dominate undergraduate enrollments, study finds. *Chronicle of Higher Education, 48*(40), 34.

Fairchild, E. E. (2003). Multiple roles of adult learners. *New Directions for Student Services, 2003*(102), 11–16.

Faircloth, S. C., & Tippeconnic, J. W., III. (2010). *The dropout/graduation crisis among American Indian and Alaska Native students: Failure to respond places the future of Native peoples at risk*. Published report in collaboration with the Civil Rights Project at UCLA and the Center for the Study of Leadership in American Indian Education at Penn State University. Retrieved from http://eric.ed.gov/?id=ED511323

Fenzel, M. L., & Hessler, S. P. (2001). *Predictors of the adjustment of first year students to college: The role of early involvement and type of residence*. Paper presented at the annual meeting of the American Educational Research Association, Seattle, WA.

Flowers, L. A. (2004). Effects of living on campus on African American students' educational gains in college. *NASPA Journal, 41*(2), 277–293. doi:10.2202/1949-6605.1334

Foubert, J. D., & Grainger, L. U. (2006). Effects of involvement in clubs and organizations on the psychosocial development of first-year and senior college students. *NASPA Journal (Online), 43*(1), 166–182.

Franklin, B., & Smyth, A. H. (1905). *The writings of Benjamin Franklin* (Vol. 10). New York, NY: Macmillan Co. Retrieved from https://hdl.handle.net/2027/mdp.39015011367078

Freeman, C., & Fox, M. (2005). Status and trends in the education of American Indians and Alaska Natives. (NCES 2005-108). U.S. Department of Education, National Center for Education Statistics. Washington, DC: U.S. Government Printing Office.

Fuligni, A. J., Tseng, V, & Lam, M. (1999, July/August). Attitudes toward family obligations among American Adolescents with Asian, Latin American, and European backgrounds. *Child Development, 70*(4), 1030–1044.

Furr, S. R., & Elling, T. W. (2000). The influence of work on college student development. *NASPA Journal, 37*(2), 454–470.

Garland, J. L. (2007). [Review of the book *Serving Native American students*. New Directions for Student Services]. *Journal of College Student Development, 48*(5), 612–614.

Garland, J. L. (2010). *Removing the college involvement "research asterisk": Identifying and rethinking predictors of American Indian college student involvement* (Order No. 3426253). Retrieved from ProQuest Dissertations & Theses Global. (762387257).

Garrod, A., & Larimore, C. (1997). *First person, first peoples*. Ithaca, NY: Cornell University Press.

Gefen, D. R., & Fish, M. C. (2013). Adjustments to college in nonresidential first-year students: The roles of stress, family, and coping. *Journal of the First-Year Experience and Students in Transition, 25*(2), 95–115.

Gellin, A. (2003). The effect of undergraduate student involvement on critical thinking: A meta-analysis of the literature, 1991-2000. *Journal of College Student Development, 44*(6), 746–762.

George, D., & Mallery, M. (2010). *SPSS for Windows step by step: A simple guide and reference, 17.0 update*. (10th ed.). Boston, MA: Allyn & Bacon.

Gloria, A. M., Castellanos, J., Lopez, A. G., & Rosales, R. (2005). An examination of academic nonpersistence decisions of Latino undergraduates. *Hispanic Journal of Behavioral Sciences, 27*(2), 202–223. doi:10.1177/0739986305275098.

Gloria, A. M., & Rodriguez, E. R. (2000). Counseling Latino university students: Psychosociocultural issues for consideration. *Journal of Counseling and Development, 78*(2), 145–154. doi:10.1002/j.1556-6676.2000.tb02572.x

Guillory, R. W. & Wolverton, M. (2008). It's about family: Native American student persistence in higher education. *The Journal of Higher Education, 79*(1), 58–87. doi:10.1353/jhe.2008.0001

Guyette, S., & Heth, C. (1984). Higher education for American Indians in the 1980s. *Equity & Excellence in Education, 22*(1-3), 21-30. doi:10.1080/0020486840220104

HeavyRunner, I., & DeCelles, R. (2002). Family Education Model: Meeting the student retention challenge. *Journal of American Indian Education, 41*(2), 29–37. Retrieved from https://eric.ed.gov/?id=EJ661686

Heinonen, N. L. (2002). *Evaluation of cultural identification and coping strategies as predictors of percentage of graduate degree completed by American Indian students* (Order No. 3119779). Retrieved from ProQuest Dissertations & Theses Global. (305491815).

Herzig, A. H. (2004). Becoming mathematicians: Women and students of color choosing and leaving doctoral mathematics. *Review of Educational Research, 74*(2), 171–214.

Hintz, J. R. (2011). Peer educators responding to an institutional challenge: Off-campus student services. *New Directions for Student Services, 133*, 87–95. doi:10.1002/ss.387

His Horse is Thunder, D. (2012, April 20). *Breaking through tribal colleges and universities*. Retrieved from http://www.aihec.org/our-stories/docs/reports/BreakingThrough.pdf

Ho, R. (2013). *Handbook of univariate and multivariate data analysis with IBM SPSS*. Boca Raton, FL: CRC Press.

Hoover, J. J., & Jacobs, C. C. (1992). A survey of American Indian college students: Perceptions toward their study skills/college life. *Journal of American Indian Education, 32*(1), 21–29.

Horn, L., & Nevill, S. (2006, June). *Profile of undergraduates in U.S. postsecondary education institutions, 2003–04: With a special analysis of community college students. Statistical analysis report* (NCES 2006-184). Jessup, MD: U.S. Department of Education.

Hornett, D. (1989). The role of faculty in cultural awareness and retention of American Indian college students. *Journal of American Indian Education, 30*(2), 12–18.

Howell, D. C. (2012). *Statistical methods for psychology* (8th ed.). Australia: Wadsworth, Cengage Learning.

Huang, L. N. (1994). An integrative approach to clinical assessment and intervention with Asian-American adolescents. *Journal of Clinical Child Psychology, 23*(1), 21–31.

Huffman, T. (2001). Resistance theory and the transculturation hypothesis as explanations of college attrition and persistence among culturally traditional American Indian students. *Journal of American Indian Education, 40*(3), 1–23.

Huffman, T. E., Sill, M. L., & Brokenleg, M. (1986). College achievement among Sioux and White South Dakota students. *Journal of American Indian Education, 25*(2), 32–38.

Hughes, R. (1983, Winter). The nontraditional student in higher education: A synthesis of the literature. *NASPA Journal, 20*(3), 51–64. doi:10.1080/00220973.1983.11071851

Hunt, B., & Harrington, C. F. (2010). The impending educational crisis for American Indians: Higher education at the crossroads. *Indigenous Policy Journal, XXI*(3), 1–11.

IBM Corp. (2018). *IBM SPSS Statistics for Windows, Version 25.0*. Armonk, NY: IBM Corp.

Institutional Research. (2018, Fall). *Census, fall 2018 preliminary* [Data]. Pembroke, NC: The University of North Carolina at Pembroke.

Jackson, A. P., Smith, S. A., & Hill, C. L. (2003). Academic persistence among Native American college students. *Journal of College Student Development, 44*(4), 549–565.

Jacoby, B. (1989). *The student-as-commuter: Developing a comprehensive institutional response*. (ASHE-ERIC Higher Education Report No. 7). Washington, D.C.: George Washington University.

Jacoby, B. (2000a). *Involving commuter students in learning*. San Francisco, CA: Jossey-Bass.

Jacoby, B. (2000b). Why involve commuter students in learning? *New Directions for Higher Education, 2000*(109), 3–12. doi:10.1002/he/10901

Jacoby, B., & Garland, J. (2004). Strategies for enhancing commuter student success. *Journal of College Student Retention: Research, Theory and Practice, 6*(1), 61–79.

Johnson, S. R., & Stage, F. K. (2018). Academic engagement and student success: Do high-impact practices mean higher graduation rates? *The Journal of Higher Education*, *89*(5), 753-781. https://doi.org/10.1080/00221546.2018.1441107

Kagitcibasi, C. (1990). Family and socialization in crosscultural perspective: A model of change. In J. Berman (Ed.), *Nebraska Symposium on Motivation, 1989* (pp. 135–200). Lincoln: University of Nebraska Press.

Kinzie, J., Gonyea, R., Kuh, G. D., Umbach, P., Blaich, C., & Korkmaz, A. (2007). *The relationship between gender and student engagement in college*. Paper presented at the 32nd annual conference of the Association for the Study of Higher Education, Louisville, KY. Retrieved from https://pdfs.semanticscholar.org/8352/7135f260de6eda03bdc30c7bb9130713e813.pdf

Kirk, C. M., & Lewis, R. L. (2013, February 6). Sense of community on an urban, commuter campus. *International Journal of Adolescence and Youth, 20*(1), 48–60. doi:10.1080/02673843.2013.763833

Kline, R. B. (2011). *Principles and practice of structural equation modeling*. New York, NY: Guilford Press.

Kodama, C. M. (2002). Marginality of transfer commuter students. *NASPA Journal, 39*(3), 233–250.

Kodama, C. M. (2015, Summer). Supporting commuter students of color. *New Directions for Student Services, 2015*(150), 45–55. doi:10.1002/ss.20126

Krause, K. D. (2007). Social involvement and commuter students: The first-year student voice. *Journal of the First-Year Experience and Students in Transition, 19*(1), 27–45.

Kuh, G. D. (2001). Assessing what really matters to student learning: Inside the National Survey of Student Engagement. *Change, 33*(3), 10–17.

Kuh, G. D. (2002). The National Survey of Student Engagement: Conceptual framework and overview of psychometric properties. Retrieved from http://nsse.indiana.edu/pdf/Psychometric_framework_2002.pdf.

Kuh, G. D. (2003). What we're learning about student engagement from NSSE: Benchmarks for effective educational practices. *Change: The Magazine of Higher Learning, 35*(2), 24–32. doi:10.1080/00091380309604090

Kuh, G. D. (2009a). The National Survey of Student Engagement: Conceptual and empirical foundations. *New Directions for Institutional Research, 2009*(141), 5–10.

Kuh, G. D. (2009b). What Student Affairs professionals need to know about student engagement. *Journal of College Student Development, 50*(6), 683–706.

Kuh, G. D., Cruce, T. M., Shoup, R., & Kinzie, J. (2008). Unmasking the effects of student engagement on first-year college grades and persistence. *Journal of Higher Education, 79*(5), 540–63.

Kuh, G. D., Gonyea, R. M., & Palmer, M. (2001). *The disengaged commuter student: Fact or fiction?* Retrieved from http://www.nsse.indiana.edu/pdf/commuter.pdf

Kuh, G. D., Hu, S., & Vesper, N. (2000). "They shall be known by what they do:" An activities-based typology of college students. *Journal of College Student Development, 41*(2), 228–244.

Kuh, G. D., Kinzie, J., Buckley, J. A., Bridges, B. K., & Hayek, J. C. (2007). Piecing together the student success puzzle: Research, propositions, and recommendations. *ASHE Higher Education Report, 32*(5).

Kuh, G. D., Kinzie, J., Schuh, J. H., & Whitt, E. J., & Associates (2005). *Student success in college: Creating conditions that matter*. San Francisco, CA: Jossey-Bass Inc.

Kuh, G. D., Schuh, J. H., Whitt, E. J., Andreas, R. E., Lyons, J. W., Strange, C. C., . . . MacKay, K. A. (1991). *Involving colleges: Successful approaches to fostering student learning and personal development outside the classroom*. San Francisco, CA: Jossey-Bass.

Kuh, G. D., & Vesper, N. (1997). A comparison of student experiences with good practices in undergraduate education between 1990 and 1994. *Review of Higher Education, 21*(1), 43–61.

Kuh, G. D., Whitt, E. J., & Strange, C. C. (1989, March 27–31). *The contributions of institutional agents to high quality out-of-class experiences for college students*. Paper presented at the Annual Meeting of the American Educational Research Association, San Francisco, CA.

Larimore, J. A., & McClellan, G. S. (2005, spring). Native American student retention in U.S. postsecondary education. *New Directions for Student Services, 2005*(109), 17–32. https://doi.org/10.1002/ss.150

Lee, E. (1983). A social systems approach to assessment and treatment for Chinese American families. In M. McGoldrick, J. K. Pearce, & J. Giordano (Eds.), *Ethnicity and family therapy* (pp. 208–228). New York, NY: The Guilford Press.

Lee, J., Donlan, W., & Brown, E. F. (2010). American Indian/Alaskan Native undergraduate retention at predominantly White institutions: An elaboration of Tinto's theory of college student departure. *Journal of College Student Retention, 12*(3), 257–276. doi:10.2190/CS.12.3.a

Leroy, M. (Producer) & Fleming, V., Cukor, G., Taurog, N., Thorpe, R., & Vidor, K. (Directors). (1939). *The Wizard of Oz* [Motion Picture]. United States: Metro-Goldwyn-Mayer.

Levitz, R., & Noel, L. (1989). Connecting students to institutions: Keys to retention and success. In M. L. Upcraft & J. N. Gardner (Eds.), *The freshman year experience: Helping students survive and succeed in college* (pp. 65–81). San Francisco, CA: Jossey Bass.

Likins, J. M. (1991). Research refutes myth: Commuter students do want to be involved. *NASPA Journal, 29*(1), 68–74.

Lin, R. (1990). Perception of family background and personal characteristics among Indian college students. *Journal of American Indian Education, 29*(3), 19–28.

Lin, R., LaCounte, D., & Eder, J. (1988, May). A study of Native American students in a predominantly White college. *Journal of American Indian Education, 27*(3), 8–15.

Lomawaima, K. T. (1999). The unnatural history of American Indian education. In K. G. Swisher & L. W. Tippeconnic III (Eds.), *Next steps: Research and practice to advance Indian education* (pp. 3–31). Charleston, WV: ERIC Clearinghouse on Rural Education and Small Schools.

Long, M. M., Sandler, D. M., & Topol, M. T. (2017). Short-term field study programs: A holistic and experiential approach to learning. *Journal of Teaching in International Business, 28*(1), 49–63.

López Turley, R. N., & Wodtke, G. (2010). College residence and academic performance: Who benefits from living on campus? *Urban Education, 45*(4), 506–532. https://doi.org/10.1177/0042085910372351

Lowery, M. M. (2010). *Race, identity, & the making of a nation: Lumbee Indians in the Jim Crow South*. Chapel Hill, NC: University of North Carolina Press.

Lowery, M. M. (2018). *The Lumbee Indians: An American struggle*. Chapel Hill, NC: University of North Carolina Press.

Lundberg, C. A. (2007, July/August). Student involvement and institutional commitment to diversity as predictors of Native American student learning. *Journal of College Student Development, 48*(4), 405–416. doi:10.1353/csd.2007.0039

Lundberg, C. A., & Lowe, S. C. (2016, January). Faculty as contributors to learning for Native American students. *Journal of College Student Development, 57*(1), 3–17. http://doi.org/10.1353/csd.2016.0003

MacDonald, M. (2016, April 6). Indigenizing the academy: What some universities are doing to weave indigenous peoples, cultures and knowledge into the fabric of their campuses. *University Affairs*. Retrieved from http://www.universityaffairs.ca/features/feature-article/indigenizing-the-academy/

Mara, M., & Mara, A. (2011). Finding an analytic frame for faculty-student interaction within faculty-in-residence programs. *Innovative Higher Education, 36*(2), 71–82. doi:10.1007/s10755-010-9162-8

Marchbanks, R. (2018). 50-year vision: What does the future hold for tribal colleges and universities? *Tribal College Journal, 30*(1), 30–35. Retrieved from https://tribalcollegejournal.org/50-year-vision-what-does-the-future-hold-for-tribal-colleges-and-universities/

Markus, H. R., & Kitayama, S. (1991). Culture and the self: Implications for cognition, emotion, and motivation. *Psychological Review, 98,* 224–253.

McClellan, G. S., Fox, M. J. T., & Lowe, S. C. (2005, spring). Where we have been: A history of Native American higher education. *New Directions for Student Services, 2005*(109), 7–15. doi:10.1002/ss.149

McInerney, D. M., & Swisher, K. G. (1995). Exploring Navajo motivation in school settings. *Journal of America Indian Education, 34*(3), 28–51.

Merriam, S. B., & Tisdell, E. J. (2016). *Qualitative research: A guide to design and implementation* (4th ed.). San Francisco, CA: Jossey-Bass.

Merwin, J. C. (1969). Historical review of changing concepts of evaluation. In R. L. Tyler (Ed.)., *Educational evaluation: New roles, new methods*. The 68th Yearbook of the National Society for the Study of Education, Part II. Chicago, IL: University of Chicago Press.

Miller, A. L., Sarraf, S. A., Dumford, A. D., & Rocconi, L. M. (2016, October 4). *Construct validity of NSSE Engagement Indicators*. Retrieved from http://nsse.indiana.edu/pdf/psychometric_portfolio/Validity_ConstructValidity_FactorAnalysis_2013.pdf

Moon, N. L. (2003). *Warriors in graduate school: Using Rorschach and interviews to identify strengths in Indian graduate students* (Order No. 3080410). Retrieved from ProQuest Dissertations & Theses Global. (288080867).

Murguía, E., Padilla, R. V., & Pavel, M. (1991). Ethnicity and the concept of social integration in Tinto's model of institutional departure. *Journal of College Student Development, 32*(5), 433–439.

National Center for Education Statistics. (2014, October). *Profile of undergraduate students: 2011–12*. Washington, DC: Author. Retrieved from http://nces.ed.gov/pubsearch/pubsinfo.asp?pubid=2015167

National Center for Education Statistics. (n.d.a). *Educational institutions*. Retrieved from https://nces.ed.gov/fastfacts/display.asp?id=84

National Center for Education Statistics. (n.d.b). *Table 302.60. Percentage of 18- to 24-year-olds enrolled in degree-granting postsecondary institutions, by level of institution and sex and race/ethnicity of student: 1970 through 2016*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_302.60.asp

National Center for Education Statistics. (n.d.c). *Table 303.10. Total fall enrollment in degree-granting postsecondary institutions, by attendance status, sex of student, and control of institution: Selected years, 1947 through 2027*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_303.10.asp

National Center for Education Statistics. (n.d.d). *Table 306.10. Total fall enrollment in degree-granting postsecondary institutions, by level of enrollment, sex, attendance status, and race/ethnicity of student: Selected years, 1976 through 2016*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_306.10.asp

National Center for Education Statistics. (n.d.e). *Table 306.20. Total fall enrollment in degree-granting postsecondary institutions, by level of enrollment, and control of institution and race/ethnicity of student: Selected years, 1976 through 2016*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_306.20.asp

National Center for Education Statistics. (n.d.f). *Table 315.20. Full-time faculty in degree-granting postsecondary institutions, by race/ethnicity, sex, and academic rank: Fall 2013, fall 2015, and fall 2016*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_315.20.asp

National Center for Education Statistics. (n.d.g). *Table 320.20. Certificates below the associate's degree level conferred by postsecondary institutions, by race/ethnicity and sex of student: 1998-99 through 2015-16*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_320.20.asp

National Center for Education Statistics. (n.d.h). *Table 321.20. Associate's degrees conferred by postsecondary institutions, by race/ethnicity and sex of student: Selected years, 1976-77 through 2015-16*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_321.20.asp

National Center for Education Statistics. (n.d.i). *Table 322.20. Bachelor's degrees conferred by postsecondary institutions, by race/ethnicity and sex of student: Selected years, 1976-77 through 2015-16*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_322.20.asp

National Center for Education Statistics. (n.d.j). *Table 323.20. Master's degrees conferred by postsecondary institutions, by race/ethnicity and sex of student: Selected years, 1976-77 through 2015-16*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_323.20.asp

National Center for Education Statistics. (n.d.k). *Table 324.20. Doctor's degrees conferred by postsecondary institutions, by race/ethnicity and sex of student: Selected years, 1976-77 through 2015-16*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_324.20.asp

National Center for Education Statistics. (n.d.l). *Table 326.10. Graduation rate from first institution attended for first-time, full-time bachelor's degree-seeking students at*

4-year postsecondary institutions, by race/ethnicity, time to completion, sex, control of institution, and acceptance rate: Selected cohort entry years, 1996 through 2010. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_326.10.asp

National Center for Education Statistics. (n.d.m). *Table 331.10. Percentage of undergraduates receiving financial aid, by type and source of aid and selected student characteristics: 2015-16.* Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_331.10.asp

National Center for Education Statistics. (n.d.n). *Table 331.35. Percentage of full-time, full-year undergraduates receiving financial aid, and average annual amount received, by type and source of aid and selected student characteristics: Selected years, 1999-2000 through 2015-16*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_331.35.asp

National Center for Education Statistics. (n.d.o). *Table 331.40. Average amount of financial aid awarded to full-time, full-year undergraduates, by type and source of aid and selected student characteristics: 2015-16*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_331.40.asp

National Center for Education Statistics. (n.d.p). *Table 331.45. Average amount of financial aid awarded to part-time or part-year undergraduates, by type and source of aid and selected student characteristics: 2015-16*. Retrieved from https://nces.ed.gov/programs/digest/d17/tables/dt17_331.35.asp

National Institute of Education. (1984). *Involvement in learning*. Washington, DC: U.S. Department of Education.

National Survey of Student Engagement. (2000). *The NSSE 2000 report—national benchmarks of effective educational practice*. Retrieved from http://nsse.indiana.edu/pdf/NSSE%202000%20National%20Report.pdf

National Survey of Student Engagement. (2010). *Validity: 2009 known groups validation*. Retrieved from http://nsse.indiana.edu/pdf/psychometric_portfolio/Validity_GroupMembership.pdf

National Survey of Student Engagement. (2013). *A fresh look at student engagement—annual results 2013*. Retrieved from http://nsse.indiana.edu/NSSE_2013_Results/pdf/NSSE_2013_Annual_Results.pdf

National Survey of Student Engagement. (2014, January). *From Benchmarks to Engagement Indicators and High-Impact Practices*. Retrieved from http://nsse.indiana.edu/pdf/Benchmarks%20to%20Indicators.pdf

National Survey of Student Engagement. (2015, July 23). *Engagement Indicators and High-Impact Practices*. Retrieved from http://nsse.indiana.edu/pdf/EIs_and_HIPs_2015.pdf

National Survey of Student Engagement. (2018a). *About NSSE*. Retrieved from http://nsse.indiana.edu/html/about.cfm

National Survey of Student Engagement. (2018b). *Annual results 2018*. Retrieved from http://nsse.indiana.edu/NSSE_2018_Results/pdf/NSSE_2018_Annual_Results.pdf

National Survey of Student Engagement. (2018c). *Engagement Indicators*. Retrieved from http://nsse.indiana.edu/html/engagement_indicators.cfm

National Survey of Student Engagement. (2018d). *High-Impact Practices*. Retrieved from http://nsse.indiana.edu/html/high_impact_practices.cfm

National Survey of Student Engagement. (2018e). *NSSE 2018 overview*. Retrieved from http://nsse.indiana.edu/html/Nsse_overview_2018.cfm

National Survey of Student Engagement. (2018f). *NSSE's 2018 version*. Retrieved from http://nsse.indiana.edu/pdf/survey_instruments/2018/NSSE_2018_US.pdf

National Survey of Student Engagement. (2018g). *NSSE's commitment to data quality*. Retrieved from http://nsse.indiana.edu/html/psychometric_portfolio.cfm

National Survey of Student Engagement. (2018h). *Reliability*. Retrieved from http://nsse.indiana.edu/html/reliability.cfm

National Survey of Student Engagement. (2018i). *Survey development*. Retrieved from http://nsse.indiana.edu/html/survey_development.cfm

National Survey of Student Engagement. (2018j). *Validity*. Retrieved from http://nsse.indiana.edu/html/validity.cfm

National Survey of Student Engagement. (2019). *Experimental questions*. Retrieved from http://nsse.indiana.edu/html/experimental_questions.cfm

NC Commission of Indian Affairs. (2015). *Map of NC tribal communities*. Retrieved from https://ncadmin.nc.gov/citizens/american-indians/map-nc-tribal-communities

NC Commission of Indian Affairs. (n.d.). *NC tribal communities*. Retrieved from https://ncadmin.nc.gov/citizens/american-indians/nc-tribal-communities

Newbold, J. J. (2015). Lifestyle challenges for commuter students. *New Directions for Student Services, 2015*(150), 79–86. doi:10.1002/ss.20129

Newbold, J. J., Mehta, S. S., & Forbus, P. (2011). Commuter students: Involvement and identification with an institution of higher education. *Academy of Educational Leadership Journal, 15*(2), 141–153.

Nowack, K., & Hanson, A. (1985). Academic achievement of freshman as a function of residence hall housing. *NASPA Journal, 22*(3), 22–28. doi:10.1080/00220973.1985.11071923

Official Tribal Seal, Lumbee Tribe Ordinance No. 2006-000__ (2006). Retrieved from http://media.wix.com/ugd/269399_91ec2cd6d35d41f19659cd43f1bdcd24.pdf

Okagaki, L., Helling, M. K., & Bingham, G. E. (2009). American Indian college students' ethnic identity and beliefs about education. *Journal of College Student Development, 50*(2), 157–176.

Otis, M. (1971). Indian education: A cultural dilemma. *The Indian Historian, 4*(3), 23–26.

Oxendine, S. D. (2015). *Examining the impact of institutional integration and cultural integrity on sense of belonging to predict intention to persist for Native American students at non-Native colleges and universities* (Order No. 3708162). Retrieved from ProQuest Dissertations & Theses Global. (1696290508).

Pace, C. R. (1980). Measuring the quality of student effort. *Current Issues in Higher Education, 2,* 10–16.

Pace, C. R. (1984). *Measuring the quality of student experiences: An account of the development and use of the college student experiences questionnaire*. Los Angeles: Higher Education Research Institute, University of California.

Pascarella, E. T. (1980). Student-faculty informal contact and college outcomes. *Review of Educational Research, 50*(4), 545–595. doi:10.3102/00346543050004545

Pascarella, E. T. (1984). Reassessing the effects of living on campus versus commuting to college: A casual modeling approach. *Review of Higher Education, 7*(3), 247–260.

Pascarella, E. T. (1985). The influence of on-campus living versus commuting to college on intellectual and interpersonal self-concept. *Journal of College Student Personnel, 26*(4), 292–299.

Pascarella, E. T., Duby, P. D., Terenzini, P. T., & Iverson, B. K. (1983). Student-faculty relationships and freshman year intellectual growth in a nonresidential setting. *Journal of College Student Development, 24*(5), 395–402.

Pascarella, E. T., & Terenzini, P. T. (1991). *How college affects students: Findings and insights from twenty years of research*. San Francisco, CA: Jossey-Bass.

Pascarella, E. T., & Terenzini, P. T. (2005). *How college affects students: A third decade of research*. San Francisco, CA: Jossey Bass.

Pascarella, E. T., Terenzini, P. T., & Blimling, G. S. (1994). The impact of residential life on students. In C. C. Schroeder, P. Mable & Associates (Eds.), *The educational potential of residence halls* (pp. 22–52). San Francisco, CA: Jossey-Bass.

Pascarella, E. T., Whitt, E. J., Nora, A., Edison, M., Hagedorn, L. S., & Terenzini, P. T. (1995). *What have we learned from the first year of the National Study of Student Learning?* Washington, DC: Office of Educational Research and Improvement. Retrieved from https://files.eric.ed.gov/fulltext/ED381054.pdf

Pavel, M., & Padilla, R. (1993). American Indian and Alaska Native postsecondary departure: An example of assessing a mainstream model using national longitudinal data. *Journal of American Indian Education, 32*(2), 1–23.

Pavel, D. M., Skinner, R. R., Cahalan, M., Tippeconnic, J., & Stein, W. (1998). *American Indians and Alaska Natives in postsecondary education*. Retrieved from https://nces.ed.gov/pubs98/98291.pdf

Peterson, N. A. (1975, December). Commuting student lacks advantages of dorm resident. *Comment, 23*, 1–12.

Pike, G. R. (1999). The effects of residential learning communities and traditional residential living arrangements on educational gains during the first year of college. *Journal of College Student Development, 40*(3), 269–284.

Pike, G. R. (2000). The influence of fraternity or sorority membership on students' college experiences and cognitive development. *Research in Higher Education, 41*(1), 117–139.

Pike, G. R. (2004). Measuring quality: A comparison of U.S. news rankings and NSSE benchmarks. *Research in Higher Education, 45*(2), 193–208.

Pike, G. R. (2006). The convergent and discriminant validity of NSSE scalelet scores. *Journal of College Student Development, 47*(5), 551–564.

Pike, G. R., & Killian, T. S. (2001, August). Reported gains in student learning: Do academic disciplines make a difference? *Research in Higher Education, 42*(4), 429–454.

Pike, G. R., & Kuh, G. D. (2005, March). A typology of student engagement for American colleges and universities. *Research in Higher Education, 46*(2), 185–210. doi:10.1007/s 11162-004-1599-0

Pike, G. R., Kuh, G. D., & Gonyea, R. M. (2003, April). The relationship between institutional mission and students' involvement and educational outcomes. *Research in Higher Education, 44*(2), 243–263.

Pike, G. R., Schroeder, C. C., & Berry, T. R. (1997). Enhancing the educational impact of residence halls: The relationship between residential learning communities and first-year college experiences and persistence. *Journal of College Student Development, 38*(6), 609–621.

Quilt sewn by Henry Berry Lowrie's daughter donated to UNCP museum. (2018, January 5). Retrieved from https://www.uncp.edu/news/quilt-sewn-henry-berry-lowries-daughter-donated-uncp-museum

Rea, L. M., & Parker, R. A. (1997). *Designing and conducting survey research: A comprehensive guide*. San Francisco, CA: Jossey-Bass.

Rencher, A. C., & Christensen, W. F. (2012). *Methods of multivariate analysis* (3rd ed.). Hoboken, NJ: Wiley.

Reyhner, J., & Eder, J. (2017). *American Indian education: A history* (2nd ed.). Norman, OK: University of Oklahoma Press.

Richardson, R. C., Jr., & Bender, L. W. (1985). Students in urban settings: Achieving the baccalaureate degree. (ASHE-ERIC Higher Education Report No. 6). Washington, DC: George Washington University.

Roberts, C. (2010). *The dissertation journey: A practical and comprehensive guide to planning, writing, and defending your dissertation* (2nd ed.). Thousand Oaks, CA: Corwin.

Robbins, W. (1974). The educational needs of Native American Indians. In W. Beggs (Ed.), *The educational needs of minority groups* (pp. 81–104). Lincoln, NE: Professional Educators Publications.

Rudolph, F. (1962). *The American college and university*. New York, NY: Knopf.

Sakietewa, G. W. (1996). *Bridging the gap between high school and college: A successful program that promotes academic success for Hopi and Navajo students*. Paper presented at Retention in Education for Today's American Indian Nations, Tucson, AZ.

Sauser, W. I., & Sheehan, E. P. (2005). National Survey of Student Engagement. In R. A. Spies & B. S. Plake (Eds.), *The sixteenth mental measurements yearbook*. Lincoln, NE: Buros Center for Testing.

Sax, L. J., Bryant, A. N., & Harper, C. E. (2005). The differential effects of student-faculty interaction on college outcomes for women and men. *Journal of College Student Development, 46*(6), 642–659.

Schiller, P., & Gaseoma, L. (1993). Analysis of self-reported strategies for successful adjustment to higher education by bicultural Native American students. In Y. Song & E. Kim (Eds.), *American mosaic: Selected readings on America's multicultural heritage* (pp. 44–54). Englewood Cliffs, NJ: Prentice Hall.

Schlossberg, N. K., Lynch, A. Q., & Chickering, A. W. (1989). *Improving higher education environments for adults*. San Francisco, CA: Jossey-Bass.

Schribrowsky, J. A., & Peltier, J. W. (1993, Summer). A strategic marketing approach to marketing education at commuter campuses. *Marketing Education Review, 3*(Summer 1993), 22–30.

Schroeder, C. C., & Mable, P. (1994). Residence halls and the college experience: Past and present. In C. C. Schroeder, P. Mable, & Associates (Eds.), *The educational potential of residence halls* (pp. 3–21). San Francisco, CA: Jossey-Bass.

Schudde, L. (2016). The interplay of family income, campus residency, and student retention (what practitioners should know about cultural mismatch). *The Journal of College and University Student Housing, 43*(1), 10–27.

Schudde, L. T. (2011). The causal effect of campus residency on college student retention. *The Review of Higher Education, 34*(4), 581–610.

Secatero, S. L. (2009). *Beneath our sacred minds, hands and hearts: Stories of persistence and success among American Indian graduate and professional*

students (Order No. 3368075). Retrieved from ProQuest Dissertations & Theses Global. (304948239).

Shotton, H. J., Lowe, S. C., & Waterman, S. J. (2013). Introduction. In H. J. Shotton, S. C. Lowe, & S. J. Waterman (Eds.), *Beyond the asterisk: Understanding Native students in higher education* (pp. 1–24). Sterling, VA: Stylus Publishing.

Shotton, H. J., Oosahwe, E. S. L., & Cintrón, R. (2007, Fall). Stories of success: Experiences of American Indian students in a peer-mentoring retention program. *The Review of Higher Education, 31*(1), 81–107. doi:10.1353/rhe.2007.0060

Silverman, S. C., Alibadi, S., & Stiles, M. R. (2009). Meeting the needs of commuter, part-time, transfer, and returning students. In S. R. Harper, & S. J. Quaye (Eds.), *Student engagement in higher education: Theoretical perspectives and practical approaches for diverse populations* (pp. 117–135). New York, NY: Routledge.

Simpson, D. B., & Burnett, D. (2017, May 10). Commuters versus residents: The effects of living arrangement and student engagement on academic performance. *Journal of College Student Retention: Research, Theory, & Practice, 2017*, 1–19. doi:10.1177/1521025117707516

Soria, K., & Alkire, B. (2015, September 14). *Elevating Native American college students' sense of belonging in higher education*. Retrieved from http://www.myacpa.org/article/elevating-native-american-college-students-sense-belonging-higher-education

Standing Bear, L. (1931). *My Indian boyhood*. Lincoln, NE: University of Nebraska Press.

Stein, W. J. (1999). *Tribal colleges: 1968-1998*. Retrieved from https://eric.ed.gov/?id=ED427913

Study Group on the Conditions of Excellence in American Higher Education. (1984). *Involvement in higher learning: Realizing the potential of American higher education.* Washington, DC: Institute of Education.

Suina, S. E. (1987). *The American Indian dropout problem: A look at Pueblo Indian freshmen, sophomores, and juniors in six colleges and universities in New Mexico* (Order No. 8807860). Retrieved from ProQuest Dissertations & Theses Global. (303600762).

Swisher, J., Hoisch, M., & Pavel, D. M. (1991). *American Indian/Alaskan native dropout study*. Tempe, AZ: Arizona State University, Center for Indian Education.

Szasz, M. C. (1974). *Education and the American Indian*. Albuquerque: University of New Mexico Press.

Tabachnick, B. G., & Fidell, L. S. (2013). *Using multivariate statistics* (6th ed.). Boston: Pearson Education.

Telzer, E. H., Gonzales, N., & Fuigni, A. J. (2014). Family obligation values and family assistance behaviors: Protective and risk factors for Mexican-American adolescents' substance use. *Journal of Youth Adolescence, 43,* 270–283. doi:10.1007/s10964-013-9941-5

Terenzini, P. T., Pascarella, E. T., & Blimling, G. S. (1996). Students' out-of-class experiences and their influence on learning and cognitive development: A literature review. *Journal of College Student Development, 27*(2), 149–162.

The University of North Carolina at Pembroke. (n.d.a). *NSSE 2017 Engagement Indicators. University of North Carolina at Pembroke*. Retrieved from https://www.uncp.edu/sites/default/files/2018-07/NSSE17%20Engagement%20Indicators_2016-17.pdf

The University of North Carolina at Pembroke. (n.d.b). *Quick facts*. Retrieved from https://www.uncp.edu/about/quick-facts

Thompson, M. N., Johnson-Jennings, M., & Nitzarim, R. S. (2013). Native American undergraduate students' persistence intentions: A psychosociocultural perspective. *Cultural Diversity and Ethnic Minority Psychology*, *19*(2), 218–228. doi:10.1037/a0031546

Thornton, R. (1998). Institutional and intellectual histories of Native American studies. In R. Thornton (Ed.), *Studying Native America: Problems and prospects* (pp. 79–107). Madison, WI: The University of Wisconsin Press.

Tierney, W. G. (1992). *Official encouragement, institutional discouragement: Minorities in academe—the Native American experience*. Norwood, NJ: Ablex.

Tierney, W. G., Sallee, M. W., & Venegas, K. M. (2007, fall). Access and financial aid: How American-Indian students pay for college. *Journal of College Admission, 197*, 14–23.

Tinto, V. (1987). *Leaving college: Rethinking the causes and cures of student attrition*. Chicago, IL: University of Chicago Press.

Tinto, V. (1993). *Leaving college: Rethinking the causes and cures of students' attrition*. Chicago. IL: University of Chicago Press.

Torres, V., Howard-Hamilton, M. F., & Cooper, D. L. (2003). Identity development of diverse populations: Implications for teaching and administration in higher education. *ASHE Higher Education Report, 29*(6).

Triandis, H. C. (1990). Cross-cultural studies of individualism and collectivism. In J. Berman (Ed.), *Nebraska Symposium on Motivation, 1989* (pp. 41–133). Lincoln: University of Nebraska Press.

Triandis, H. C. (1995). Individualism and collectivism. New York: Simon & Schuster.

Triandis, H. C., Bontempo, R., Villareal, M. J., Asai, M., & Lucca, N. (1988). Individualism and collectivism: Crosscultural perspectives on self-ingroup relationships. J*ournal of Personality and Social Psychology, 54,* 323–338.

Trowler, V. (2010). *Student engagement literature review*. Retrieved from https://www.heacademy.ac.uk/system/files/studentengagementliteraturereview_1.pdf

Tsai, K. M., Gonzales, N. A., & Fuligni, A. J. (2015). Mexican American adolescents' emotional support to the family in response to parental stress. *Journal of Research on Adolescence, 26*(4), 658–672.

Tsai, K. M., Telzer, E. H., Gonzales, N. A., Fuligni, A. J. (2015, July/August). Parental cultural socialization of Mexican-American adolescents' family obligation values and values. *Child Development, 86*(4), 1241–1252.

University of North Carolina. (n.d.). Interactive data dashboards. Retrieved from http://northcarolina.edu/infocenter

U.S. Census Bureau. (2012, January). *The American Indian and Alaska Native population: 2010*. Retrieved from https://www.census.gov/prod/cen2010/briefs/c2010br-10.pdf

U.S. Census Bureau. (2015, November 2). *FFF: American Indian and Alaska Native heritage month: November 2015*. Retrieved from https://www.census.gov/newsroom/ facts-for-features/2015/cb15-ff22.html

U.S. Census Bureau. (n.d.a). *2012-2016 American community survey 5-year estimates*. Retrieved from https://factfinder.census.gov/faces/tableservices/jsf/pages/productview.xhtml?src=CF

U.S. Census Bureau. (n.d.b). *2017 American community survey 1-year estimates*. Retrieved from https://factfinder.census.gov/bkmk/table/1.0/en/ACS/17_1YR/S0201/0100000US/popgroup~009

U.S. Department of Education. (2014). *Eligibility*. Retrieved from https://www2.ed.gov/programs/nasnti/eligibility.html

U.S. Department of the Interior. (n.d.). *Frequently asked questions*. Retrieved from https://www.bia.gov/frequently-asked-questions

Voght, W. P., & Johnson, R. B. (2011). *Dictionary of statistics & methodology. A nontechnical guide for the social sciences* (4th ed.). Los Angeles, CA: Sage Publications.

Walker, E. T. (1935). Student housing and university success. *School and Society, 42*, 575-77.

Waterman, S. J. (2007). A complex path to Haudenosaunee degree completion. *Journal of American Indian Education, 46*(1), 20–40.

Waterman, S. J. (2012). Home-going as a strategy for success among Haudenosaunee college and university students. *Journal of Student Affairs Research and Practice, 49*(2), 193–209.

Webber, K. L., Krylow, R. B., & Zhang, Q. (2013). Does involvement really matter? Indicators of college student success and satisfaction. *Journal of College Student Development, 54*(6), 591–611. doi:10.1353/csd.2013.0090

West, D. K. (1988). Comparisons of career maturity and its relationship with academic performance. *Journal of American Indian Education, 27*(3), 1–7.

Wilmes, M. B., & Quade, S. L. (1986). Perspectives on programming for commuters: Examples of good practice. *NASPA Journal, 24*(1), 25–35.

Winds of Change. (2017). The top 200 colleges for Native Americans. *Winds of Change, 32*(4), 23–53. Retrieved from http://www.nxtbook.com/nxtbooks/aises/woc_college1718/

Winkle-Wagner, R. & Locks, A. M. (2014). *Diversity and inclusion on campus: Supporting racially and ethnically underrepresented students*. New York, NY: Routledge.

Wolf, W. S., & Melnick, R. (Eds.). (1990). *The status of minority students at Arizona State University*. Tempe, AZ: Survey Research Laboratory.

Wolf-Wendel, L., Ward, K., & Kinzie, J. (2009, July/August). A tangled web of terms: The overlap and unique contribution of involvement, engagement, and integration

to understanding college student success. *Journal of College Student Development, 50*(4), 407–428.

Wright, B. (1985). Programming success: Special student services and the American Indian college student. *Journal of American Indian Education, 24*(1), 1–7.

Wright, B., & Tierney, W. G. (1991, March). American Indians in higher education: A history of cultural conflict. *Change, 23*(2), 11–18.

Yearwood, T. L., & Jones, E. A. (2012). Understanding what influences successful Black commuter students' engagement in college. *The Journal of General Education, 61*(2), 97–125.

Youngbull, N. R. (2017). *The (un)success of American Indian Gates Millennium scholars within institutions of higher education* (Order No. 10252462). Retrieved from ProQuest Dissertations & Theses Global. (1892107959).

Zheng, J. L., Saunders, K. P., Shelly, M. C., & Whalen, D. F. (2002). Predictors of academic success for freshmen residence hall students. *Journal of College Student Development, 43*(2), 267–283.

APPENDIX A

DISSERTATION SURVEY

Survey on the Engagement of Undergraduate Lumbee Commuter Students at UNC Pembroke

IRB INFORMATION SHEET

Project Title: A Quantitative Examination of the Engagement of Undergraduate Lumbee Commuter Students at a Native American-serving Nontribal Institution

Principal Investigator: Lawrence T. Locklear

Faculty Advisor: Dr. Laura Gonzalez

What is this all about?

I am asking you to participate in this research study because it will investigate the engagement of undergraduate Lumbee commuter students at the University of North Carolina at Pembroke (UNC Pembroke). This research project will only take about 10 minutes and will involve you completing an online survey. Your participation in this research project is voluntary.

How will this negatively affect me?

No, other than the time you spend on this project there are no known or foreseeable risks involved with this study.

What do I get out of this research project?

You and/or society will or might benefit from this study because it may provide information to better understand how to improve the campus engagement of undergraduate Lumbee commuter students and, subsequently, their success in higher education.

Will I get paid for participating?

You will not be compensated for participating in this study. However, after completion of the survey, you may elect to include your name, email address, and phone number to be entered into a drawing for one of six the $25.00 gift cards. If you choose to be entered into the drawing, you will be provided with information on how to enter into the drawing online.

What about my confidentiality?

We will do everything possible to make sure that your information is kept confidential. All information obtained in this study is strictly confidential unless disclosure is required by law. No personally identifying information will be collected. Absolute confidentiality of data provided through the Internet cannot be guaranteed due to the limited protections of Internet access. Please be sure to close your browser when finished so no one will be able to see what you have been doing.

The information from respondents in this survey will be collected via UNC Greensboro's Qualtrics system. There will be no personally identifiable information collected. The survey is set to not collect IP addresses for the surveys. Qualtrics uses Transport Layer Security (TLS) encryption (also known as HTTPS) for all transmitted data. Qualtrics also protect surveys with passwords and HTTP referrer checking. Data will be stored on a password protected computer.

What if I do not want to be in this research study?

You do not have to be part of this project. This project is voluntary and it is up to you to decide to participate in this research project. If you agree to participate at any time in this project you may stop participating without penalty.

What if I have questions?

You can ask Lawrence T. Locklear (Principal Investigator) (ltlockle@uncg.edu or 910.775.4579) or Dr. Laura Gonzalez (Faculty Advisor) (lmgonza2@uncg.edu or 336.405.8682) anything about the study. If you have concerns about how you have been treated in this study call the Office of Research Integrity Director at 1.855.251.2351.

- ○ I agree and consent to participate in this study. (1)
- ○ I disagree and do not want to participate in this study. (2)

[Skip Logic: If answer "I agree," skip to Q1. If answer "I disagree," skip to end of survey.]

Welcome! Thank you for agreeing to participate in this study of undergraduate Lumbee commuter student engagement at the University of North Carolina at Pembroke. The survey has 22 questions and will take approximately 10 minutes to complete.

Q1: Do you identify yourself as Lumbee?

- ○ Yes (1)
- ○ No (2)

[Skip Logic: If answer "Yes," skip to Q2a. If answer "No," skip to end of survey.]

Q2a: Which of the following best describes where you are living while attending college?

- ○ On-campus (Belk, Cypress, North, Oak, and Pine residence halls, University Village Apartments, or University Courtyard Apartments) (1)
- ○ Off-campus within walking distance to campus (includes at home with family, The Commons at Pembroke, The View at Pembroke, and Pembroke Pointe) (2)
- ○ Off-campus farther than walking distance to campus (includes at home with family) (3)

[Skip Logic: If answer "On-campus", skip to end of survey. If answer "Off-campus", skip to Q2b.]

[Display Logic: If answer "Off-campus within walking distance" or "Off-campus farther than walking distance", display Q2b.]

Q2b: With whom do you live off-campus? (Check all that apply)

- ○ No one, I live alone (1)
- ○ Roommates and/or apartment-mates (2)
- ○ My child(ren) (3)
- ○ Parents or guardians (4)
- ○ With relatives (not parents) (5)
- ○ Spouse or partner (6)
- ○ Other. Please specify: _____ (7)

Q3: During the current school year, about how often have you done the following?

	Very often (1)	Often (2)	Sometimes (3)	Never (4)
Asked another student to help you understand course material (1)	○	○	○	○
Explained course material to one or more students (2)	○	○	○	○
Prepared for exams by discussing or working through course material with other students (3)	○	○	○	○
Worked with other students on course projects or assignments (4)	○	○	○	○

Q4: During the current school year, about how often have you done the following?

	Very often (1)	Often (2)	Sometimes (3)	Never (4)
Combined ideas from different courses when completing assignments (1)	○	○	○	○
Connected your learning to societal problems or issues (2)	○	○	○	○
Included diverse perspectives (political, religious, racial/ethnic, gender, etc.) in course discussions or assignments (3)	○	○	○	○
Examined the strengths and weaknesses of your own views on a topic or issue (4)	○	○	○	○
Tried to better understand someone else's views by imagining how an issue looks from their perspective (5)	○	○	○	○
Learned something that changed the way you understand an issue or concept (6)	○	○	○	○
Connected ideas from your courses to your prior experiences and knowledge (7)	○	○	○	○

Q5: During the current school year, about how often have you done the following?

	Very often (1)	Often (2)	Sometimes (3)	Never (4)
Talked about career plans with a faculty member (1)	○	○	○	○
Worked with a faculty member on activities other than coursework (committees, student groups, etc.) (2)	○	○	○	○
Discussed course topics, ideas, ideas, or concepts with a faculty member outside of class (3)	○	○	○	○
Discussed your academic performance with a faculty member (4)	○	○	○	○

Q6: During the current school year, how much has your coursework emphasized the following?

	Very much (1)	Quite a bit (2)	Some (3)	Very little (4)
Applying facts, theories, or methods to practical problems or new situations (1)	○	○	○	○
Analyzing an idea, experience, or line of reasoning in depth by examining its parts (2)	○	○	○	○
Evaluating a point of view, decision, or information source (3)	○	○	○	○
Forming a new idea or understanding from various pieces of information (4)	○	○	○	○

Q7: During the current school year, to what extent have your instructors done the following?

	Very much (1)	Quite a bit (2)	Some (3)	Very little (4)
Clearly explained course goals and requirements (1)	○	○	○	○
Taught course sessions in an organized way (2)	○	○	○	○
Used examples or illustrations to explain difficult points (3)	○	○	○	○
Provided feedback on a draft or work in progress (4)	○	○	○	○
Provided prompt and detailed feedback on tests or completed assignments (5)	○	○	○	○

Q8: During the current school year, about how often have you done the following?

	Very often (1)	Often (2)	Sometimes (3)	Never (4)
Reached conclusions based on your own analysis of numerical information (numbers, graphs, statistics, etc.) (1)	○	○	○	○
Used numerical information to examine a real-world problem or issue (unemployment, climate change, public health, etc.) (2)	○	○	○	○
Evaluated what others have concluded from numerical information (3)	○	○	○	○

Q9: During the current school year, about how often have you had discussions with people from the following groups?

	Very often (1)	Often (2)	Sometimes (3)	Never (4)
People of a race or ethnicity other than your own (1)	○	○	○	○
People from an economic background other than your own (2)	○	○	○	○
People with religious beliefs other than your own (3)	○	○	○	○
People with political views other than your own (4)	○	○	○	○

Q10: During the current school year, about how often have you done the following?

	Very often (1)	Often (2)	Sometimes (3)	Never (4)
Identified key information from reading assignments (1)	○	○	○	○
Reviewed your notes after class (2)	○	○	○	○
Summarized what you learned in class or from course materials (3)	○	○	○	○

Q11: Which of the following have you done or do you plan to do before you graduate?

	Done or in progress (1)	Plan to do (2)	Do not plan to do (3)	Have not decided (4)
Participate in an internship, co-op, field experience, student teaching, or clinical placement (1)	○	○	○	○
Hold a formal leadership role in a student organization or group (2)	○	○	○	○
Participate in a learning community or some other formal program where groups of students take two or more classes together (3)	○	○	○	○
Participate in a study abroad program (4)	○	○	○	○
Work with a faculty member on a research project (5)	○	○	○	○
Complete a culminating senior experience (capstone course, senior project or thesis, comprehensive exam, portfolio, etc.) (6)	○	○	○	○

Q12: Indicate the quality of your interactions with the following people at your institution.

1=Very Poor; 2=Poor; 3=Fair; 5=Very Good; 6=Excellent; 7=Exceptional; 8=Not Applicable

	(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
Students (1)	○	○	○	○	○	○	○	○
Academic advisors (2)	○	○	○	○	○	○	○	○
Faculty (3)	○	○	○	○	○	○	○	○
Student services staff (career services, student activities, housing, etc.) (4)	○	○	○	○	○	○	○	○
Other administrative staff and offices (registrar, financial aid, etc.) (5)	○	○	○	○	○	○	○	○

Q13: How much does your institution emphasize the following?

	Very much (1)	Quite a bit (2)	Some (3)	Very little (4)
Providing support to help students succeed academically (1)	○	○	○	○
Using learning support services (tutoring services, writing center, etc.) (2)	○	○	○	○
Encouraging contact among students from different backgrounds (social, racial/ethnic, religious, etc.) (3)	○	○	○	○
Providing opportunities to be involved socially (4)	○	○	○	○
Providing support for your overall well-being (recreation, health care, counseling, etc.) (5)	○	○	○	○
Helping you manage your non-academic responsibilities (work, family, etc.) (6)	○	○	○	○
Attending campus activities and events (performing arts, athletic events, etc.) (7)	○	○	○	○
Attending events that address important social, economic, or political issues (8)	○	○	○	○

Q14: About how many hours do you spend in a typical 7-day week doing the following?

	0 (1)	1-5 (2)	6-10 (3)	11-15 (4)	16-20 (5)	21-25 (6)	26-30 (7)	More than 30 (Hours per week) (8)
Preparing for class (studying, reading, writing, doing homework or lab work, analyzing data, rehearsing, and other academic activities) (1)	○	○	○	○	○	○	○	○
Participating in co-curricular activities (organizations, campus publications, student government, fraternity or sorority, intercollegiate or intramural sports, etc.) (2)	○	○	○	○	○	○	○	○
Working for pay **on campus** (3)	○	○	○	○	○	○	○	○
Working for pay **off campus** (4)	○	○	○	○	○	○	○	○
Doing community service or volunteer work (5)	○	○	○	○	○	○	○	○
Relaxing and socializing (time with friends, video games, TV or videos, keeping up with friends online, etc.) (6)	○	○	○	○	○	○	○	○
Providing care for dependents (children, parents, etc.) (7)	○	○	○	○	○	○	○	○
Commuting to campus (driving, walking, etc.) (8)	○	○	○	○	○	○	○	○

Q15: How often do you do the following during a typical week in college? Family can mean any member of the respondent's nuclear and extended family, including parents, spouse, fiancé, child(ren), etc.

	1 Almost Never (1)	2 Barely/ Seldom (2)	3 Sometimes (3)	4 Very Often (4)	5 Almost Always (5)	6 Not Applicable (6)
Spend time with your grandparents, cousins, aunts, and uncles (1)	○	○	○	○	○	○
Spend time at home with your family (2)	○	○	○	○	○	○
Run errands at the family needs done (3)	○	○	○	○	○	○
Help your brothers or sisters with their homework (4)	○	○	○	○	○	○
Spend holidays with your family (5)	○	○	○	○	○	○
Help out around the house (6)	○	○	○	○	○	○
Spend time with your family on weekends (7)	○	○	○	○	○	○
Help take care of your brothers or sisters (8)	○	○	○	○	○	○
Eat meals with your family (9)	○	○	○	○	○	○
Help take care of your grandparents (10)	○	○	○	○	○	○
Do things together with your brothers or sisters (11)	○	○	○	○	○	○

Q16: Which of the following statements best describes your membership in student organizations at UNC Pembroke?

- ○ I am currently or have been a member of American Indian AND non-American Indian student organizations. (1)
- ○ I am currently or have been a member of only American Indian student organizations (e.g., Alpha Pi Omega, American Indian Science and Engineering Society, Native American Student Organization, Phi Sigma Nu, other). (2)
- ○ I am currently or have been a member of only non-American Indian student organizations. (3)
- ○ I am not nor have I been a member of a student organization. (4)

Q17: Are you a member of a social fraternity or sorority?

- ○ Yes (1)
- ○ No (2)

Q18: What is your class level?

- ○ Freshman/first-year (1)
- ○ Sophomore (2)
- ○ Junior (3)
- ○ Senior (4)
- ○ Unclassified (5)

Q19: Thinking about this current academic term, which of the following describes your enrollment status?

- ○ Full-time (12+ hours) (1)
- ○ Part-time (11 hours or less) (2)
- ○ Not enrolled (3)

Q20: What is your cumulative grade point average up to now at this institution?

- ○ 4.0 to 3.5 (1)
- ○ 3.49 to 3.0 (2)
- ○ 2.99 to 2.5 (3)
- ○ 2.49 to 2.0 (4)
- ○ 1.99 or lower (5)
- ○ Not sure/Don't know (6)

Q21: What is your gender identity?

- ○ Male (1)
- ○ Female (2)
- ○ Transgender Male (3)
- ○ Transgender Female (4)
- ○ Gender Variant/Non-conforming (5)
- ○ Not listed. Please specify: _____ (6)
- ○ I prefer not to respond (7)

Q22: What is your current age (in years)?

- ○ 18-24 (1)
- ○ 25-29 (2)
- ○ 30-34 (3)
- ○ 35-39 (4)
- ○ 40-44 (5)
- ○ 45-49 (6)
- ○ 50 and older (7)

Note: Questions 2a-14, 17-18, and 21 were used with permission from *The College Student Report*, National Survey of Student Engagement, Copyright 2001-18 The Trustees of Indiana University. Response items for some of the questions were amended with permission.

Thank you for completing the survey on undergraduate Lumbee commuter student engagement at the University of North Carolina at Pembroke.

If you completed the survey and are interested in entering a drawing for a chance to win one of the six $25 gift cards, please click the link below. You will be redirected to a second, separate survey.

Enter Drawing for Gift Card

APPENDIX B

RESOLUTION OF SUPPORT FROM THE TRIBAL COUNCIL OF THE LUMBEE TRIBE OF NORTH CAROLINA

LUMBEE TRIBE OF NORTH CAROLINA

CLLR-2019-0221-01 DATE: FEBRUARY 21, 2019

SUPPORT FOR STUDY TO EXAMINE ENGAGEMENT OF UNDERGRADUATE LUMBEE COMMUTER STUDENTS

WHEREAS, The Lumbee Tribe of North Carolina ("Lumbee Tribe") is a recognized American Indian Tribe of the State of North Carolina, subject to the Constitution of the Lumbee Tribe of North Carolina ("Tribal Constitution") and its inherent powers of self-government;

WHEREAS, Article VII, Section 1 of the Tribal Constitution delegates all legislative authority to the Tribal Council of the Lumbee Tribe of North Carolina ("Tribal Council"); and

WHEREAS, The Tribal Council's Education and Culture Committee met with Lawrence T. Locklear, an enrolled member of the Lumbee Tribe and a student in the doctoral program in higher education at the University of North Carolina at Greensboro, in regard to his dissertation study titled, "A Quantitative Examination of the Engagement of Undergraduate Lumbee Commuter Students at a Native American-serving Nontribal Institution"; and

WHEREAS, Locklear's study will examine the engagement of undergraduate Lumbee commuter students at the University of North Carolina at Pembroke and the influence of familism on their engagement; and

THEREFORE, Be it resolved by the Tribal Council of the Lumbee Tribe of North Carolina this resolution that shall be cited as ***"SUPPORT FOR STUDY TO EXAMINE ENGAGEMENT OF UNDERGRADUATE LUMBEE COMMUTER STUDENTS."***

THEREFORE, Be it further resolved the Tribal Council supports this study.

THEREFORE, Be it further resolved, Locklear will provide the Lumbee Tribe will a copy of the study's results.

CERTIFICATION

THIS ***"SUPPORT FOR STUDY TO EXAMINE ENGAGEMENT OF UNDERGRADUATE LUMBEE COMMUTER STUDENTS,"*** CLLR-2019-0221-01, ADOPTED AT A MEETING OF THE 21-MEMBER TRIBAL COUNCIL OF THE LUMBEE TRIBE OF NORTH CAROLINA WHERE 19 MEMBERS WERE PRESENT, CONSTITUTING A QUORUM, THIS THE 21st DAY OF FEBRUARY, 2019 BY A VOTE OF 19 FOR, 0 AGAINST, 0 ABSTENTION(S).

Ricky Burnett 2-21-19

ATTEST: Ricky Burnett Date
Speaker, Tribal Council of the Lumbee Tribe of North Carolina

Wendy Moore-Graham 2-21-19

ATTEST: Wendy Moore-Graham Date
Secretary, Tribal Council of the Lumbee Tribe of North Carolina

ROLL CALL VOTE RESULTS

CLLR-2019-0221-01 "SUPPORT FOR STUDY TO EXAMINE ENGAGEMENTOF UNDERGRADUATE LUMBEE COMMUTER STUDENTS"

ADOPTED FEBRUARY 21, 2019

19 YES, 0 NO, 0 ABSTENSION(S)

District 1:	Carvicous Barfield	YES
District 2:	Sharon Hunt	YES
	Janie McFarland	ABSENT
District 3:	James B. Hunt	YES
	Vacant	----------
District 4:	Ted Woodell	YES
District 5:	Wendy Moore-Graham	YES
	Jarrod Lowery	YES
District 6:	Larry Chavis	YES
	Douglas Locklear	YES
District 7:	Reginald Oxendine	YES
	Jan Lowery	YES
	Alvin Mercer	YES
District 8:	Corbin Eddings	YES
District 9:	Dewey J McNeill	YES
District 10:	Marshil Locklear	YES
District 11:	Frank Cooper	YES
District 12:	Annie Taylor	YES
	Michael Chavis	YES
District 13:	Ricky Burnett	YES
District 14:	Terry Hunt	YES

APPENDIX C

LETTER OF SUPPORT FROM THE CENTER FOR STUDENT SUCCESS AT THE UNIVERSITY OF NORTH CAROLINA AT PEMBROKE

Spartan

Lawrence Locklear <ltlockle@uncg.edu>

Request to Send Email to American Indian Students
1 message

Derek R. Oxendine <derek.oxendine@uncp.edu> Wed, Feb 6, 2019 at 12:45 PM
To: "Lawrence T. Locklear" <ltlockle@uncg.edu>

I confirm I have the authority to grant permission for an email to be forwarded to enrolled American Indian students, on behalf of Lawrence Locklear, in order to invite undergraduate American Indian students to participate in an anonymous online survey for the purpose of gathering information for a doctoral dissertation research study. Additionally, I agree to assist in sending out this email and follow-up emails to American Indian students.

Name of person granting authority: Dr. Derek Oxendine

Position of person granting authority: Director, Center for Student Success

Organization above person represents: The University of North Carolina at Pembroke

Approximate number of people who will receive the email request: 1000+

Derek Oxendine

Derek Oxendine, Ph.D.

Director, Center for Student Success

The University of North Carolina at Pembroke

derek.oxendine@uncp.edu

Office: 910.521.6625

Direct: 910.521.6401

Fax: 910.775.4286

APPENDIX D

RECRUITMENT EMAIL

Subject: (Action Requested) Survey of Lumbee Commuter Students—Win Gift Card!

Hello everyone!

Lawrence Locklear (Lumbee) is conducting a study for his doctoral degree in higher education from the University of North Carolina at Greensboro. Many of you may know Lawrence; he is the program coordinator for the Southeast American Indian Studies Program at UNC Pembroke and an active member of the #BraveNation family.

The study will examine the engagement of undergraduate Lumbee commuter students at UNC Pembroke and the influence of family obligations on their engagement. If you are 18 years of age or older, are currently enrolled at UNC Pembroke, and identify as Lumbee, regardless of your full-time or part-time status, you are eligible to participate in this research study. By completing the online survey, you may help to improve the experiences of Lumbee commuter students in higher education.

To participate, please visit https://uncg.qualtrics.com/jfe/form/SV_5bi2E9ccEn7Cz7n

Your participation in this survey is completely voluntary and all of your responses are anonymous. None of the responses will be connected to identifying information. The study has been approved by the Institutional Review Boards at UNC Greensboro and UNC Pembroke.

The survey will take approximately 10 minutes to complete. **Please complete the survey by Friday, March 1, 2019.**

There is no compensation for participating in this research; you will not be paid for being in this study. However, if you complete the survey, you will have the opportunity to enter into a drawing to win one of six $25 gift cards.

If you have questions about this survey, please contact Lawrence Locklear at ltlockle@uncg.edu or his dissertation adviser (Dr. Laura Gonzalez) at lmgonza2@uncg.edu.

Thank you very much for your time and cooperation.

Sincerely,

Dr. Derek Oxendine, Director
Center for Student Success
The University of North Carolina at Pembroke

APPENDIX E

SOCIAL MEDIA SCRIPT

Note: The following message was posted on social media sites (e.g., Facebook):

SURVEY OF LUMBEE COMMUTER STUDENTS AT UNC PEMBROKE: Lawrence Locklear (Lumbee) is conducting a study for his doctoral degree from UNC Greensboro. The study will examine the engagement of undergraduate Lumbee commuter students at UNC Pembroke and the influence of familism on their engagement. If you are 18 years of age or older, are currently enrolled at UNC Pembroke, and identify as Lumbee, you are eligible to participate in this research study. The survey will take approximately 10 minutes to complete. Please complete the survey by March 1, 2019.

Link: https://uncg.qualtrics.com/jfe/form/SV_5bi2E9ccEn7Cz7n

By completing the online survey, you may help to improve the experiences of Lumbee commuter students in higher education. Your participation in this survey is completely voluntary and all of your responses are anonymous. None of the responses will be connected to identifying information. The study has been approved by the Institutional Review Boards at UNC Greensboro and UNC Pembroke.

There is no compensation for participating in this research; you will not be paid for being in this study. However, if you complete the survey, you will have the opportunity to enter into a random drawing to win one of six $25 gift cards.

If you have questions about this survey, please contact Lawrence Locklear at ltlockle@uncg.edu or his dissertation adviser (Dr. Laura Gonzalez) at lmgonza2@uncg.edu.

APPENDIX F

IRB INFORMATION SHEET

Project Title: A Quantitative Examination of the Engagement of Undergraduate Lumbee Commuter Students at a Native American-serving Nontribal Institution

Principal Investigator: Lawrence T. Locklear

Faculty Advisor: Dr. Laura Gonzalez

What is this all about?

I am asking you to participate in this research study because it will investigate the engagement of undergraduate Lumbee commuter students at the University of North Carolina at Pembroke (UNC Pembroke). This research project will only take about 10 minutes and will involve you completing an online survey. Your participation in this research project is voluntary.

How will this negatively affect me?

No, other than the time you spend on this project there are no known or foreseeable risks involved with this study.

What do I get out of this research project?

You and/or society will or might benefit from this study because it may provide information to better understand how to improve the campus engagement of undergraduate Lumbee commuter students and, subsequently, their success in higher education.

Will I get paid for participating?

You will not be compensated for participating in this study. However, after completion of the survey, you may elect to include your name, email address, and phone number to be entered into a drawing for one of six the $25.00 gift cards. If you choose to be entered into the drawing, you will be provided with information on how to enter into the drawing online.

What about my confidentiality?

We will do everything possible to make sure that your information is kept confidential. All information obtained in this study is strictly confidential unless disclosure is required

by law. No personally identifying information will be collected. Absolute confidentiality of data provided through the Internet cannot be guaranteed due to the limited protections of Internet access. Please be sure to close your browser when finished so no one will be able to see what you have been doing.

The information from respondents in this survey will be collected via UNC Greensboro's Qualtrics system. There will be no personally identifiable information collected. The survey is set to not collect IP addresses for the surveys. Qualtrics uses Transport Layer Security (TLS) encryption (also known as HTTPS) for all transmitted data. Qualtrics also protect surveys with passwords and HTTP referrer checking. Data will be stored on a password protected computer.

What if I do not want to be in this research study?

You do not have to be part of this project. This project is voluntary and it is up to you to decide to participate in this research project. If you agree to participate at any time in this project you may stop participating without penalty.

What if I have questions?

You can ask Lawrence T. Locklear (Principal Investigator) (ltlockle@uncg.edu or 910.775.4579) or Dr. Laura Gonzalez (Faculty Advisor) (lmgonza2@uncg.edu or 336.405.8682) anything about the study. If you have concerns about how you have been treated in this study call the Office of Research Integrity Director at 1.855.251.2351.

APPENDIX G

IRB APPROVAL—THE UNIVERSITY OF NORTH CAROLINA AT GREENSBORO

OFFICE OF RESEARCH INTEGRITY
2718 Beverly Cooper Moore and Irene Mitchell Moore Humanities and Research Administration Bldg.
PO Box 26170
Greensboro, NC 27402-6170
336.256.0253
Web site: www.uncg.edu/orc
Federalwide Assurance (FWA) #216

To: Lawerence Locklear
Teacher Ed/Higher Ed
Teacher Ed/Higher Ed

From: UNCG IRB

Date: 2/22/2019

RE: Notice of IRB Exemption (modification)
Exemption Category: 2.Survey, interview, public observation
Study #: 19-0344
Study Title: A Quantitative Examination of the Engagement of Undergraduate Lumbee Commuter Students at a Native American-serving Nontribal Institution

This submission has been reviewed by the IRB and was determined to be exempt from further review according to the regulatory category cited above under 45 CFR 46.101(b).

Study Description:

The study will examine the engagement of undergraduate Lumbee Indian commuter students at the University of North Carolina at Pembroke. The study will also examine the influence of familism on their engagement. Participants will be recruited, via an email message sent by UNC Pembroke's Center for Student Success to UNCP's American Indian student listserv and a post to social media sites, to complete an online survey housed on UNC Greensboro's Qualtrics system. Once the survey is completed, respondents will be given the opportunity to enter into a random drawing to win one of six $25 gift cards. To enter the drawing, respondents will be redirected to a second, separate Qualtrics survey where their name, phone number, and email address will be collected.

Modification Information:

- The modification includes the addition of participant recruitment via a message posted to social media sites.

Investigator's Responsibilities

Please be aware that any changes to your protocol must be reviewed by the IRB prior to being implemented. **Please utilize the the consent form/information sheet with the most recent version date when enrolling participants**. The IRB will maintain records for this study for three years from the date of the original determination of exempt status.

Please be aware that valid human subjects training and signed statements of confidentiality for all members of research team need to be kept on file with the lead investigator. Please note that you will also need to remain in compliance with the university "Access To and Retention of Research Data" Policy which can be found at http://policy.uncg.edu/university-policies/research_data/.

APPENDIX H

IRB APPROVAL—THE UNIVERSITY OF NORTH CAROLINA AT PEMBROKE

One University Drive
P.O. Box 1510
Pembroke, NC 28372

UNIVERSITY of NORTH CAROLINA
PEMBROKE

Institutional Review Board
FWA 00005281

February 20, 2019

Lawrence Locklear
208 Old Main
UNCP Campus

Title of Study: A Quantitative Examination of the Engagement of Undergraduate Lumbee Commuter Students at a Native American-serving Nontribal Institution. IRB Protocol # 10-19

Dear Mr. Locklear:
The IRB has completed review of your protocol titled: A Quantitative Examination of the Engagement of Undergraduate Lumbee Commuter Students at a Native American-serving Nontribal Institution and it is APPROVED via the inter-institutional agreement.

Please note that if significant changes are made to the protocol, you must submit these changes to the IRB prior to their implementation in your study, as they may change the status of your review. Also, if any unanticipated or adverse events occur during this research, you must notify the IRB immediately.

Please include your protocol number (#10-19). This protocol expires in February 2022. If you should need to extend the research study beyond February 2022, please submit a new protocol to the IRB.

Sincerely,

Erik C. Tracy, Ph.D.
Associate Professor of Psychology
IRB Chair

APPENDIX I

INTER-INSTITUTIONAL IRB AUTHORIZATION AGREEMENT

University of North Carolina at Greensboro
Institutional Review Board Authorization Agreement

A. This Agreement is entered into by and between the institutions identified below (each a "party" and collectively the "parties").

Institution or Organization Providing IRB Review ("Reviewing Institution/IRB"):
University of North Carolina at Greensboro
Federalwide Assurance ("FWA") #: 00000216
IRB Registration #: IRB00000894

Institution or Organization Relying on the Designated IRB ("Relying Institution"):
University of North Carolina at Pembroke
Federalwide Assurance ("FWA") #: 00005281
IRB Registration #: 00003218

B. The Officials signing below agree that the Relying Institution may rely on the Reviewing Institution/IRB for review and continuing oversight of the human subject research in the following protocol:

Name of Research Project: A Quantitative Examination of the Engagement of Undergraduate Lumbee Commuter Students at a Native American-serving Nontribal Institution
IRB Study # at Reviewing Institution/IRB: 19-0384
IRB Study # at Relying Institution/IRB: 10-19
Principal Investigator at Reviewing Institution/IRB: Lawrence Locklear
Principal Investigator at Relying Institution: Lawrence Locklear
Sponsor or Funding Agency: n/a
Award Number (if any): n/a

C. **Reviewing Institution/IRB** agrees that it will:

(1) Provide initial and continuing review for the research protocol specified in Section B pursuant to 45 CFR 46, its FWA as well as the requirements of federal, state and local laws. For research involving FDA regulated products, the Reviewing Institution/IRB is in compliance with the requirements defined in 21 CFR Parts 50, 56, 312 and 812 and ICH (International Conference on Harmonization) guidance related to GCPs (Good Clinical Practices).

(2) Follow written procedures for reporting its findings and actions to appropriate official(s) at the Relying Institution via the principal investigator at the Relying Institution specified in Section B.

(3) Make relevant minutes of IRB meetings and other relevant documentation available to the Relying Institution upon request.

D. **Relying Institution** agrees that it will:

(1) Be responsible for the timely compliance of its employees, students, and agents with the Reviewing Institution/IRB's policies, procedures, and determinations regarding the research protocol(s) specified in Section B and with the terms of this Agreement and the terms of Relying Institution's OHRP-approved FWA.

(2) Accept the final authority and decisions of the Reviewing Institution/IRB, including but not limited to directives to suspend or terminate designated research activities.

(3) Be responsible for safeguarding the rights and welfare of each research subject in performance of the research protocol(s) specified in Section B by its own employees, students, and agents in accord with the determinations of the Reviewing Institution/ IRB and the terms of the Relying Institution's OHRP-approved FWA.

(4) Not use, or authorize others to use, the name, symbols, or marks of the Reviewing Institution/IRB in any advertising or publicity material or make any form of representation or statement in relation to the research protocol(s) specified in Section B which would constitute an expressed or implied endorsement by the Reviewing Institution/IRB, except for factual representations of the Reviewing Institution/IRB's performance of research pursuant to this Agreement.

(5) Designate the Reviewing Institution/IRB(s), as specified in Section A, on the OHRP-approved FWA for the Relying Institution.

E. **Both parties** agree to the following general provisions:

(1) The term of this Agreement shall begin upon full execution by the parties and shall continue in effect until expiration or termination of the Reviewing Institution/IRB's approval of the research protocol(s) specified in Section B.

(2) Each party will be responsible for its own negligence in connection with its performance of this Agreement and the research protocol(s) specified in Section B.

(3) Upon the occurrence of events or incidents that require reporting to external regulatory agencies or other organizations, including without limitation the reporting of unanticipated problems or instances of non-compliance to OHRP or the agency sponsoring the research protocol(s) specified in Section B, the parties will make all reasonable efforts to determine which party has primary responsibility for making the required reports; provided, however, that both parties shall have a reasonable opportunity to review and comment on such reports. Both parties further agree to make all reasonable efforts to assist and cooperate in the preparation of any required reports relating to the research protocol(s) specified in Section B.

(4) This document must be kept on file by both parties and provided to OHRP upon request.

(5) Correspondence regarding the occurrence of events or incidents that require reporting to external regulatory agencies or other organizations, including without limitation the reporting of unanticipated problems or instances of non-compliance to OHRP or the agency sponsoring the research protocol(s) specified in Section B, shall be sent to the signatory officials listed below.

Signature of Signatory Official (or authorized designee) at Reviewing Institution/IRB:

Lisa Goble

Date: 2/20/19

Name: Dr. Lisa Goble, PhD
Institutional Title: Director, Office of Research Integrity
Address: 2720 MHRA Building, 1111 Spring Garden St., Greensboro, NC 27412
Phone: 336-256-1173
Email: lagoble@uncg.edu

Signature of Signatory Official (or authorized designee) at Relying Institution:

Erik C. Tracy

Date: 2/20/2018

Name: Dr. Erik C. Tracy, PhD
Institutional Title: Associate Professor of Psychology; IRB Chair
Address: 111 Sampson Hall, PO Box 1510, Pembroke, NC 28372
Phone: 910-775-4512
Email: erik.tracy@uncp.edu

APPENDIX J

ENTRY FOR GIFT CARD DRAWING

Note: Participants in the study had the opportunity to click a link at the end of the survey to be redirected to a second, separate survey, hosted on the University of North Carolina at Greensboro's Qualtrics system, for a chance to enter into a random drawing to win one of six $25.00 gift cards. The survey read:

Thank you for participating in this study to examine the engagement of undergraduate Lumbee commuter students at the University of North Carolina at Pembroke.

If you would like to be entered into a drawing for one of the six $25.00 gift cards, please provide your contact information. Winners will be contacted in March 2019 and provided the gift cards within five business days afterward.

1. Name [textbox]
2. Email [textbox]
3. Cell Phone [text box]

Please click the arrow at the bottom right to submit your entry.

APPENDIX K

RECRUITMENT EMAIL FOLLOW-UP

Subject: (REMINDER) Survey of Lumbee Commuter Students—Win Gift Card!

Hello everyone! One week ago, I sent a request for participants in dissertation research on behalf of Lawrence Locklear (Lumbee). He is conducting a study for his doctoral degree in higher education from the University of North Carolina at Greensboro. Many of you may know Lawrence; he is the program coordinator for the Southeast American Indian Studies Program at UNC Pembroke and an active member of the #BraveNation family.

His study will explore the engagement of Lumbee commuter students at UNC Pembroke and the influence of family obligations on their engagement. **He is still seeking participants until Friday, March 15, 2019.**

If you are 18 years of age or older, are currently enrolled at UNC Pembroke, and identify as Lumbee, regardless of your full-time or part-time status, you are eligible to participate in this research study. By completing the online survey, you may help to improve the experiences of Lumbee commuter students in higher education.

To participate, please visit https://uncg.qualtrics.com/jfe/form/SV_5bi2E9ccEn7Cz7n

Your participation in this survey is completely voluntary and all of your responses are anonymous. None of the responses will be connected to identifying information. The study has been approved by the Institutional Review Boards at UNC Greensboro and UNC Pembroke.

The survey will take approximately 10 minutes to complete. **Please complete the survey by March 15, 2019.**

There is no compensation for participating in this research; you will not be paid for being in this study. However, if you complete the survey, you will have the opportunity to enter into a drawing to win one of six $25 gift cards.

If you have questions about this survey, please contact Lawrence Locklear at ltlockle@uncg.edu or his dissertation adviser (Dr. Laura Gonzalez) at lmgonza2@uncg.edu. Thank you very much for your time and cooperation.

Sincerely,

Dr. Derek Oxendine, Director
Center for Student Success, The University of North Carolina at Pembroke

APPENDIX L

PERMISSION TO USE THE NATIONAL SURVEY OF STUDENT ENGAGEMENT'S SURVEY INSTRUMENT THE COLLEGE STUDENT REPORT

The College Student Report
Item Usage Agreement

The National Survey of Student Engagement's (NSSE) survey instrument, *The College Student Report*, is copyrighted and the copyright is owned by The Trustees of Indiana University. Any use of survey items contained within *The College Student Report* is prohibited without prior written permission from Indiana University. When fully executed, this Agreement constitutes written permission from the University, on behalf of NSSE, for the party named below to use an item or items from *The College Student Report* in accordance with the terms of this Agreement.

In consideration of the mutual promises below, the parties hereby agree as follows:

1) The University hereby grants **The University of North Carolina at Greensboro** ("Licensee") a nonexclusive, worldwide, irrevocable license to use, reproduce, distribute, publicly display and perform, and create derivatives from, in all media now known or hereafter developed, the item(s) listed in the proposal attached as Exhibit A, solely for the purpose of including such item(s) in the survey activity described in Exhibit A, which is incorporated by reference into this Agreement. This license does not include any right to sublicense others. This license only covers the survey instrument, time frame, population, and other terms described in Exhibit A. Any different or repeated use of the item(s) shall require an additional license.

2) "National Survey of Student Engagement", "NSSE", and the NSSE logo are registered with the U.S. Patent and Trademark Office. Except as provided in part 3c below, these elements may not be incorporated without permission in materials developed under this agreement, including but not limited to surveys, Web sites, reports, and promotional materials.

3) In exchange for the license granted in section 1, Licensee agrees:

   a) there will be no licensing fee to use NSSE items for the purposes described in Exhibit A;

   b) to provide to NSSE frequency distributions and means on the licensed item(s);

   c) on the survey form itself, and in all publications or presentations of data obtained through the licensed item(s), to include the following citation: "Items *xx* and *xx* used with permission from *The College Student Report,* National Survey of Student Engagement, Copyright 2001-18 The Trustees of Indiana University";

   d) to provide to NSSE a copy of any derivatives of, or alterations to, the item(s) that Licensee makes for the purpose of Licensee's survey ("modified items"), for NSSE's own nonprofit, educational purposes, which shall include the use of the modified items in *The College Student Report* or any other survey instruments, reports, or other educational or professional materials that NSSE may develop or use in the future. Licensee hereby

Indiana University Center for Postsecondary Research
1900 East Tenth Street • Eigenmann Hall, Suite 419 • Bloomington, IN 47406
Phone: (812) 856-5824 • Fax: (812) 856-5150 • E-mail: nsse@indiana.edu • Web Address: www.nsse.iub.edu

NSSE
national survey of
student engagement

grants the University a nonexclusive, worldwide, irrevocable, royalty-free license to use, reproduce, distribute, create derivatives from, and publicly display and perform the modified items, in any media now known or hereafter developed; and

e) to provide to NSSE, for its own nonprofit, educational purposes, a copy of all reports, presentations, analyses, or other materials in which the item(s) licensed under this Agreement, or modified items, and any responses to licensed or modified items, are presented, discussed, or analyzed. NSSE shall not make public any data it obtains under this subsection in a manner that identifies specific institutions or individuals, except with the consent of the Licensee.

4) This Agreement expires on April 1, 2019

The undersigned hereby consent to the terms of this Agreement and confirm that they have all necessary authority to enter into this Agreement.

For The Trustees of Indiana University:

Digitally signed by Alexander McCormick
Date: 2019.01.11 11:56:26 -05'00'

Alexander C. McCormick
Director
National Survey of Student Engagement

Date

For Licensee:

Lawrence Locklear
Student
University of North Carolina at Greensboro

01/09/2019
Date

For Advisor:

Dr. Laura Gonzalez
Associate Professor
University of North Carolina at Greensboro

1-9-19
Date

Indiana University Center for Postsecondary Research
1900 East Tenth Street • Eigenmann Hall, Suite 419 • Bloomington, IN 47406
Phone: (812) 856-5824 • Fax: (812) 856-5150 • E-mail: nsse@indiana.edu • Web Address: www.nsse.iub.edu

APPENDIX M

PERMISSION TO USE FULIGNI, TSENG, AND LAM'S CURRENT ASSISTANCE TO FAMILY SUBSCALE

Spartan

Lawrence Locklear <ltlockle@uncg.edu>

Permission to Use Scales in Dissertation

Andrew Fuligni <afuligni@ucla.edu> Mon, Dec 17, 2018 at 11:25 AM
To: "Lawrence T. Locklear" <ltlockle@uncg.edu>

Dear Lawrence,

Thank you for your email. You are free to use the measure however you may so choose. Good luck with your interesting and important study.

Sincerely,
Andrew F.
[Quoted text hidden]
--
Andrew J. Fuligni, Ph.D.
Jane and Terry Semel Institute for Neuroscience and Human Behavior at UCLA
Adolescent Development Lab at UCLA

APPENDIX N

PERMISSION TO USE OXENDINE'S DEMOGRAPHIC ITEMS

Spartan

Lawrence Locklear <ltlockle@uncg.edu>

Permission to use survey items

Oxendine, Symphony D. <oxendines@uncw.edu> Thu, Jan 3, 2019 at 3:44 PM
To: "Lawrence T. Locklear" <ltlockle@uncg.edu>

Hi Lawrence,

You have my permission to use these items. Good luck on your dissertation process.

Today is a great day for a great day,

Symphony

Symphony D. Oxendine, Ph.D.

Cherokee/Choctaw
Assistant Professor of Higher Education
Department of Educational Leadership
Watson College of Education
She/Her/Hers

a: 601 N. College Rd, Wilmington, NC, 28403
e: oxendines@uncw.edu
w: www.uncw.edu/ed/el/

p: (910) 962-3430

"Students are a solution to be embraced, not a problem to be fixed."

GV (Wado/Thank you)